

**Draft
Program Environmental
Impact Report**

**1998-00
Regional Transportation Plan
for Humboldt County**

STATE CLEARINGHOUSE NUMBER: 99032077

**Humboldt County Association of Governments
235 4th Street, Suite F
Eureka, CA 95501**

June 1999

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CHAPTER 1 INTRODUCTION AND SUMMARY

The Draft Program Environmental Impact Report (EIR), for the 1998-00 Regional Transportation Plan (RTP) for Humboldt County, has been prepared to comply with the California Environmental Quality Act (CEQA). This is a program level EIR, which is typically prepared for "policy level" planning documents. A program EIR evaluates the effects that goals, policies, and related implementation measures, such as those proposed in the RTP, would potentially have on the environment. Specific content and process requirements for Program EIR's are found in the California Code of Regulations, Title 14, Chapter 3: *Guidelines for Implementation of the California Environmental Quality Act*, and are described below.

- This Chapter includes the following sections:
- Program EIR Guidelines
- Intended Uses of the EIR
- Organization of the EIR
- Project Setting
- Project Summary
- Impact Summary/Mitigation Matrix

A CEQA PROGRAM EIR GUIDELINES

The Guidelines include the following description of a Program EIR:

CEQA Section 15168 - Program EIR

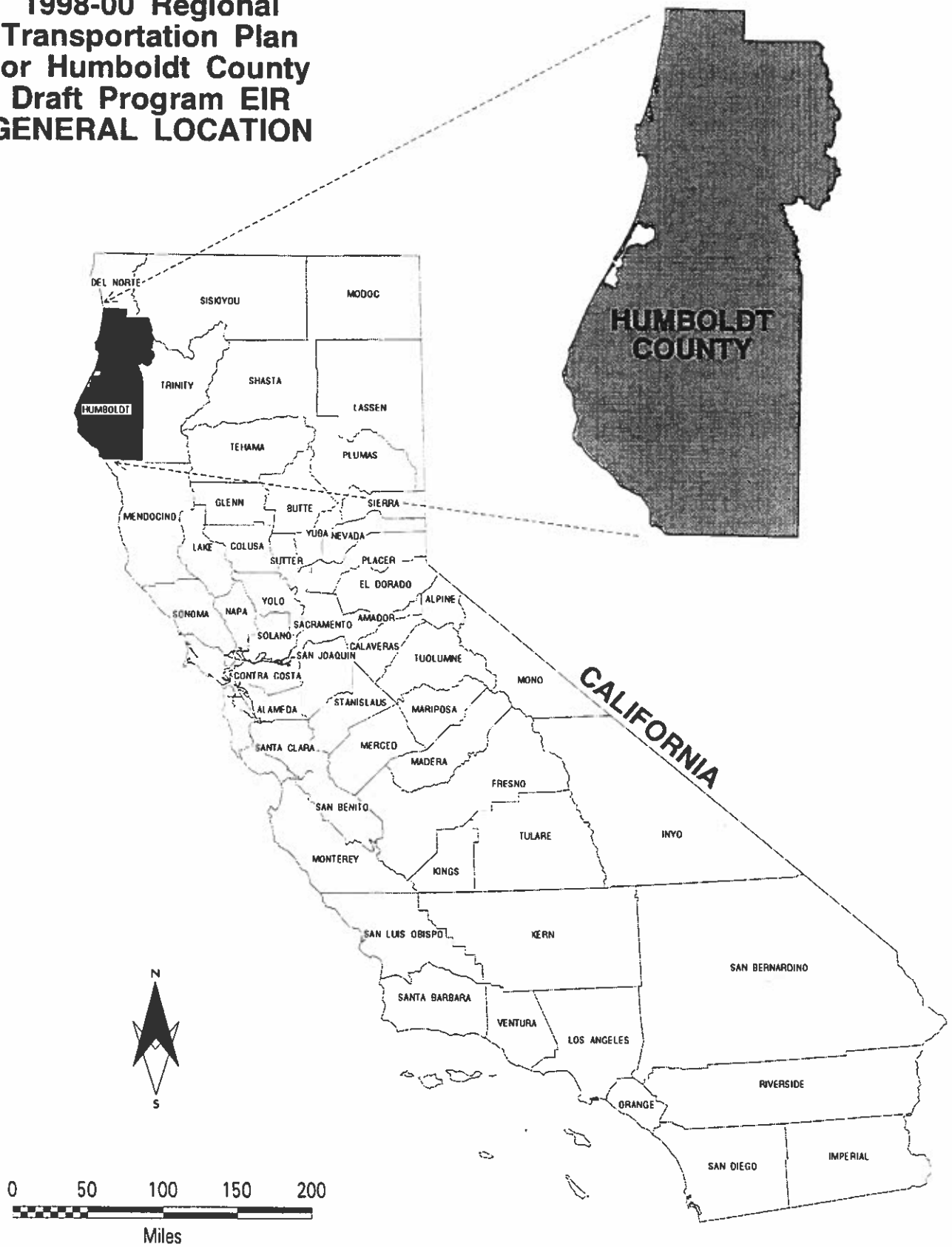
(a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- (1) Geographically.
- (2) As logical parts in the chain of contemplated actions.
- (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct on a continuing program, or
- (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

(b) Advantages. Use of a program EIR can provide the following advantages:

- (1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action.
- (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis.
- (3) Avoid duplicative reconsideration of basic policy considerations,
- (4) Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
- (5) Allow reduction in paperwork.

**Figure 1.1
1998-00 Regional
Transportation Plan
for Humboldt County
Draft Program EIR
GENERAL LOCATION**



(c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

- (1) If a later activity would have effects that were not examined in the program EIR, a new initial study would need to be prepared leading to either an EIR or Negative Declaration.
- (2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
- (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
- (4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.
- (5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

(d) Use with Subsequent EIRs and Negative Declarations. A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

- (1) Provide the basis in an initial study for determining whether the later activity may have any significant effects.
- (2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
- (3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

(e) Notice with Later Activities. When a law other than CEQA requires public notice when the agency later proposes to carry out or approve an activity within the program and to rely on the program EIR for CEQA compliance, the notice for the activity shall include a statement that:

- (1) This activity is within the scope of the program approved earlier, and
- (2) The program EIR adequately describes the activity for the purposes of CEQA.

B INTENDED USES OF THE EIR

The Program EIR has two basic uses. First, it provides analysis of environmental effects of the 1998-00 RTP for decision-makers and the public, and establishes a framework for plan adoption. Second, it serves as a first-tier EIR for subsequent EIR's on projects implementing the Plan. In addition to the uses identified above, this EIR serves as an informational document, as identified in the following CEQA guidelines:

CEQA Section 15121 - Informational Document

(a) An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.

(b) While the information in the EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the EIR by making findings under Section 15091 and if necessary by making a statement of overriding consideration under Section 15093.

(c) The information in an EIR may constitute substantial evidence in the record to support the agency's action on the project if its decision is later challenged in court.

C ORGANIZATION OF THE EIR

The EIR is organized by chapter, as shown below.

Chapter 1. Introduction and Summary

As described earlier, this chapter includes program EIR guidelines; intended uses of the EIR; organization of the EIR; project setting; project summary; and impact summary/mitigation matrix.

Chapter 2. Project Description and Alternatives

The project is the implementation of the 1998-00 RTP.

Alternatives to the proposed plan, including the no-project, transit/alternative mode, and fully funded RTP alternatives are described.

Chapter 3. Environmental Setting

CEQA Section 15125 requires that an EIR must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and regional perspective. The description shall be no longer than is necessary to give an understanding of the significant effects of the proposed project and its alternatives. The setting section typically describes existing conditions. For example, the Transportation and Circulation Chapter of the EIR includes existing traffic volumes on roadways in the setting section.

Chapter 4 Environmental Impacts

The potential effect of implementing the RTP is analyzed, including relevant impacts to the region, the resources involved, physical changes, alterations to ecological systems, and changes induced by planned regional transportation improvements, health and safety problems caused by the physical changes, and other aspects of the resource base such as public services.

This chapter analyzes significant environmental effects of the proposed project and unavoidable significant environmental effects; proposes mitigation measures to minimize significant effects; identifies effects found not to be significant; and describes economic and social effects.

Chapter 5 Evaluation of Plan Alternatives

This chapter describes the requirements for alternatives, and evaluates each of the alternatives, including the no project (1996-98 Regional Transportation Plan) alternative.

Chapter 6 Other CEQA Considerations

This chapter describes significant irreversible effects, growth inducing and cumulative impacts, long term benefits versus short term gains, and mitigation monitoring.

Chapter 7 Resources, Contacts, and Preparers

This chapter lists the current city, county, and transit authority representatives for the Humboldt County Association of Governments, HCAOG Technical Advisory Committee (TAC) members, and HCAOG staff. A listing of persons and organizations consulted during preparation of the EIR, and those responsible for EIR preparation, is also provided.

D PROJECT SETTING

Humboldt County, is located on the northern coast of California (see regional location map). There are seven incorporated cities: Eureka, Arcata, Fortuna, Rio Dell, Ferndale, Blue Lake, and Trinidad; and numerous unincorporated communities. The County's estimated 1998 population was 126,500. It encompasses 3,500 square miles of beaches, dunes, estuaries, river valleys, Humboldt Bay, incorporated and unincorporated communities, coastal terraces, agricultural lands, and forested hills.

It is bounded by the Pacific Ocean to the west, Del Norte County to the north, Mendocino County to the south, Trinity County to the east, and Siskiyou County to the northeast. (see Regional Location Map). The elevation runs from sea level to 6,934 feet at its highest point. The county is mostly mountainous except for the level plain which surrounds Humboldt Bay. The 1998 population is estimated at more than 126,500 residents with over 40,000 (30%) of them living within the greater Eureka area.

Major highways within the County include U.S. 101 and State Routes (SR) 36, 169, 200, 211, 254, 255, 271, 283 and 299. In addition, Highway 96 provides a connection between SR 299, and Interstate 5 north of Yreka, along the scenic Klamath River canyon.

Climate

The climate of Humboldt County has a Mediterranean rainfall pattern, characterized by a distinct rainy season between October and April during which 90% of the annual precipitation falls, and a dry season between May and September. The average annual rainfall around the county ranges from 38 inches in Eureka to 141 inches in Honeydew (Figure 1.2). High rainfall in winter often influences high river levels. Winter snowfall is common at higher elevations.

Average temperatures in Eureka range from the low sixties in the summer to low forties during winter; while in Hoopa average temperatures range from the nineties to the thirties. On the coast, summer fog is common when inland temperatures rise.

There is also conclusive evidence that El Nino-related weather events are becoming more frequent and severe; these disturbances disrupt travel and cause transportation corridor damage. Well-documented upward trends in ocean and air

temperature, and shifts in ocean currents, are likely to have adverse effects on the County's fishing industry.

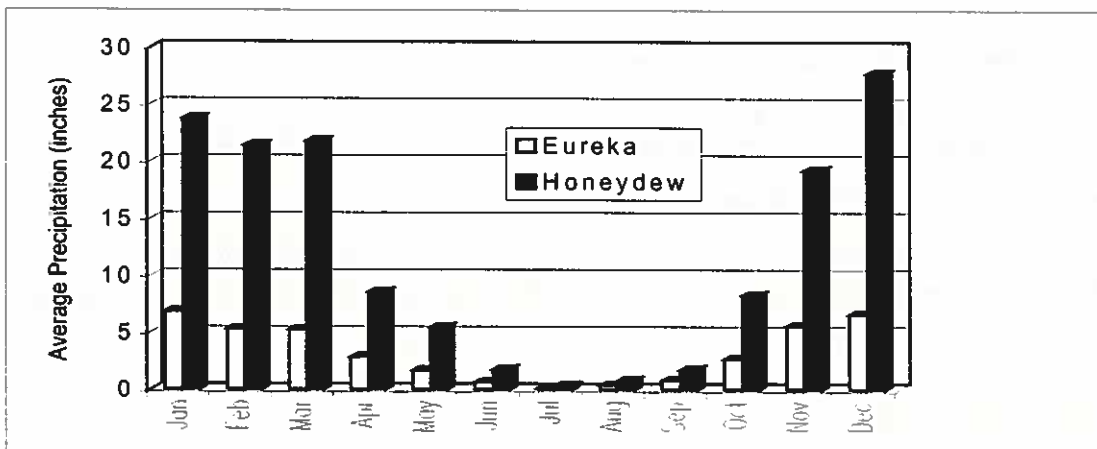


Figure 1.2 Highest and lowest average monthly precipitation in Humboldt County.

E HUMBOLDT COUNTY PLANNING AREA

The Humboldt County Association of Governments (HCAOG) is the Regional Transportation Planning Agency for the county. The HCAOG is made up of member agencies including the County of Humboldt and its seven cities, each of which has responsibility for components of the transportation system. The California Department of Transportation (Caltrans) has responsibility for the majority of the regional roadway system. Other entities with responsibility for components of the regional transportation system include:

- Humboldt Transit Authority
- Eureka Transit Service
- Arcata & Mad River Transit Service
- Humboldt Bay Harbor, Recreation and Conservation District
- North Coast Railroad Authority
- Humboldt County Airports

There are also other local transportation providers, shippers, and transportation support groups active in the county.

The existing transportation system provides circulation for people and goods and therefore includes many components such as roadways, rail facilities, aviation facilities, marine transport terminals, transit facilities, bike and pedestrian facilities. In turn, each component carries a particular mode including autos, trains, planes, ships, bicycles and pedestrians. The existing transportation system is described below. The identification of improvements to the existing system is critical to the development of a cost-effective strategy to improve circulation and travel, level of service (LOS), and modal balance.

The most extensive circulation component is Humboldt County's surface highway system, which consists of 378 miles of State Highways, and approximately 1,400 miles of local city streets and county roads. These provide inter-regional and intra-regional opportunities for the movement of people and goods on California's north coast.

F ORGANIZATION OF THE REGIONAL TRANSPORTATION PLAN

State legislation requires that each Regional Transportation Planning Agency prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system. The system is to include, but not be limited to mass transportation; highway; railroad; maritime; bicycle; pedestrian; goods movement; and aviation facilities and services. The plan shall be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials. Each Regional Transportation Planning Agency shall consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies.

The 1998-00 Regional Transportation Plan for Humboldt County includes all of the following:

Introduction. The introduction provides background information regarding the history of regional transportation planning in Humboldt County along with descriptions of the planning process, plan purpose, the regional setting, the relationship of the plan to other studies and plans, and the citizen participation program.

Assessment of Needs. The assessment of needs identifies the existing and future deficiencies of the transportation system that are of both regional and state significance. It also includes a description of the methodology used to develop travel demand forecasts and to analyze how well the traffic system is performing, and background data on socioeconomic conditions and travel characteristics.

Policy Element. The policy element contains the goals, objectives, and policies that address transportation issues by mode. Both statewide and regional issues are addressed.

Action Element. The action element describes the state and regional transportation planning process, as well as the process undertaken to evaluate various improvement options. Specific improvements are identified for short-range and long range capital programs designed to meet the anticipated needs. Implementation cost estimates and responsible agencies are also identified.

Financial Element. The financial element presents the costs, revenues, and deficits/surpluses for each transportation mode. In the cases where a funding deficit exists, a discussion of those improvements that are financially feasible is presented along with an assessment of the resulting impacts of the funding shortfall. In addition, alternative funding sources are discussed.

Environmental Review. The environmental review briefly describes the environmental review process and the separate program-level environmental impact report that has been prepared for the 1998/00 RTP Update.

Appendices. Supplemental information is presented in the Appendices to this document including a list of reference documents, a glossary of terms and other technical information.

The RTP format is shown in more detail below:

Executive Summary

Introduction

- A Planning Process
- B Purpose of the Plan
- C Regional Setting

- D Coordination with Other Plans and Studies
- E Plan Assumptions
- F Citizen Participation Program
- G Organization of the RTP

Assessment of Needs

- A Existing Needs
- B Socioeconomic Conditions
- C Travel Characteristics
- D Existing Conditions
- E Future Needs

Policy Element

- A. Policy Issues
- B Goals, Objectives, and Policies

Action Element

- A. Past Accomplishments
- B. State and Regional Transportation Improvement Planning and Programming Process
- C. Recommended Action Programs/Projects by Transportation Mode
- D. Regional Transportation Improvements Program (RTIP) Recommendations

Financial Element

- A. Purpose
- B. Roadway Improvement Funding (includes freight)
- C. Transit Improvement Funding
- D. Aviation Improvement Funding
- E. Bicycle and Pedestrian Improvement Funding
- F. Goods Movement Funding (truck, rail, marine)
- G. Recreational Travel Improvement Funding
- H. TSM Improvement Funding (TDM Improvement Funding)
- I. Pipeline and Energy Conservation Improvement Funding
- J. Other Potential Funding Sources
- K. Funding Strategy

Environmental Review

Appendices

- A. Resource Documents and Contacts
- B. Glossary of Terms and Acronyms

G Impact and Mitigation Summary

The EIR analyzes the potential impacts of implementing the 1998-00 RTP, as required by CEQA. These impacts are considered potentially significant or less than significant. Those impacts considered potentially significant are required to be mitigated, where feasible. All potentially significant impacts analyzed in the EIR will be reduced to a less-than-significant level, to the extent feasible, by applying RTP policies and other mitigation measures. The following table summarizes the impacts and mitigation identified in this EIR.

Table 1.1 SUMMARY OF IMPACTS

Environmental Impact and Threshold	Mitigation ¹	Significance after mitigation
<p>Land Use. The RTP plans improvements for the mobility of goods and people, consistent with planned growth in the region. These improvements are based on projected land uses in adopted land use plans, including city and County general plans. Residential, commercial and other developed land uses would not be displaced by programmed transportation facilities.</p> <p>Threshold. Conflicts with adopted land use plans in the region, or planned improvements that would displace communities.</p>	<ol style="list-style-type: none"> 1. The RTP policy for land use and transportation coordination shall be followed to cooperatively plan land use and transportation improvements, and ensure that transportation facilities are consistent with the timing and policies of adopted land use plans. 2. The RTP policy for analysis of potential transportation facilities that will identify significant operational or economic consequences shall be followed. 3. The RTP policy for intermodal implications shall be followed to consider implications of land-use decisions on the region's intermodal transportation systems. 	<p>This impact is considered less-than-significant.</p>
<p>Circulation. The average daily traffic volumes (ADT) forecast for state routes in 2020 are projected to increase by approximately 1.4 percent per year over existing volumes. This increase extends to truck traffic as well. Transit capital improvements may increase transit ridership, potentially reducing auto traffic and vehicle miles of travel. Planned bicycle/pedestrian facility improvements would also reduce auto use. Goods movement is expected to increase due to anticipated economic growth.</p> <p>Threshold. Substantial increase in traffic beyond the capacity of the regional roadway system.</p>	<ol style="list-style-type: none"> 1. Planned improvements on US 101 programmed in the RTP to maintain acceptable levels . 2. Rehabilitation and overlay projects on local roads and streets throughout the County, as programmed in the RTP. 3. The RTP policy encouraging re-establishment of rail service, and support for port and truck facility improvement shall be followed. 4. Development and promotion of education programs for bicycle safety and for motorist awareness of bicyclists and pedestrians. 	<p>This impact is considered less-than-significant.</p>
<p>Geology. Steep slopes and unstable geologic material found in much of the county are susceptible to movement and erosion, especially where roadway construction includes cut- or fill-slopes. Faults and liquefaction zones in the County are factors to be considered in planning transportation improvements. Facilities located too close to a fault or in a liquefaction zone are susceptible to damage from a major seismic event in the region.</p> <p>Threshold. Planned regional transportation projects that resulted in degradation of geologic resources (soil, hillslope), or are placed in areas of known instability.</p>	<ol style="list-style-type: none"> 1. Reconstruction and maintenance program for existing railroad, road and highway alignments developing a long-term potential to decrease rates of slope failures, erosion and sedimentation. 2. Application of best management practices for erosion control techniques and on-site soil retention both during and after construction. 3. Avoidance of known fault or liquefaction areas or appropriate seismic engineering 	<p>This impact is considered less-than-significant.</p>
<p>Water Resources. Land-based transportation corridor projects have the potential to affect surface and ground water resources in the area. These impacts include an increase in impervious surface which can lead to reductions in natural water percolation and increases in stormwater runoff; changes in water quality from sediment or contaminants; and potential alterations to the course or flow of flood waters.</p>	<ol style="list-style-type: none"> 1. Road/railway design and reconstruction that incorporates long-term maintenance, reduces storm water runoff and erosivity of that runoff, reduces slope instability, and separates the transportation system from the stream system 2. Road reconstruction that includes upgrading culverts to convey a 100-year storm event or ensure no stormflow diversion potential; 3. Provision of training on effective, state-of-the-art erosion control 	<p>This impact is considered less-than-significant.</p>

Table 1.1 SUMMARY OF IMPACTS

Environmental Impact and Threshold	Mitigation ¹	Significance after mitigation
<p>Threshold. a substantial increase in the rate and amount of surface runoff exceeding the capacity of stormwater systems, substantially increased flooding, or substantially decreased water quality.</p>	<p>techniques for maintenance crews and contractors who work on road and railway corridor projects;</p> <ol style="list-style-type: none"> 4. Identification and approval of spoil and construction material storage sites away from streams or drainages; 5. Improvement of routine drainage structure and facility maintenance to reduce storm event failures; 6. Seasonally appropriate timing of road construction and reconstruction to reduce likelihood of erosion; 7. Use of bridges or causeways to cross streams and wetlands wherever feasible; 8. Incorporation of stormwater filtration systems on construction or reconstruction projects to reduce pollution delivery to stream systems and minimize surface water disturbance; 9. Implementation of spill control measures as part of standard road construction practices; 10. Program/facility enhancement to support conversion to non-petroleum vehicle fuels (especially for transit fleets) to reduce underground storage tank leakage; 11. Design to prevent changes in drainage patterns or encroachment upon stream systems which could increase flooding hazards. 	
<p>Air Resources. Potential air quality impacts include increased levels of ozone smog (Smog is formed when Reactive Organic Gasses (ROG) and Oxides of Nitrogen (NO_x), react in the presence of sunlight to form a third compound, ozone) and Particulate Matter (PM 10). Ozone smog levels in the air basin currently meet air quality standards and are not projected to exceed those standards in the foreseeable future. PM 10 levels do exceed air quality standards.</p> <p>Threshold. A violation of an ambient air quality standards or a substantial contribution to an existing air quality violation.</p>	<ol style="list-style-type: none"> 1. Encourage implementation of NCUAQMD's transportation control measure recommendations for reducing PM 10 emissions. 2. Implement the RTP policies for the use of low emission vehicles and for energy conservation in transportation decisions. 	<p>The region is currently not in compliance with the standards for PM10, consequently, this impact remains significant.</p>
<p>Biological Resources. Already planned and approved projects built at or near sensitive habitat areas could disturb existing plant life on specific sites; lead to the removal of native vegetation on undeveloped areas; and introduce non-native grass, bushes, trees and other landscape materials. RTP projects may disturb or damage endangered and sensitive plant species, and in turn, lead to the destruction of animal habitats. The loss of habitat</p>	<ol style="list-style-type: none"> 1. Development and implementation of guidelines for road and rail corridor construction and maintenance activities that protect salmonid habitat—recommended in a final report to the Five County Planning Group in the fall of 1998 (U.C. Cooperative Extension). 2. Design and implementation of road and rail reconstruction projects 	<p>This impact is considered less-than-significant.</p>

Table 1.1 SUMMARY OF IMPACTS

Environmental Impact and Threshold	Mitigation ¹	Significance after mitigation
<p>initially may cause animals to relocate to adjacent areas with similar habitat.</p> <p>Threshold. An impact would be significant if there was substantial interference with the movement of resident or migratory fish or wildlife species; substantial effect (loss) to a rare or endangered species or the species' habitat; or substantial diminishment of plant, fish or wildlife habitat.</p>	<p>that allow unimpeded fish passage at all flow levels for fish-bearing streams, encourages use of bridges over streams rather than culverts, use fish ladders or weirs when necessary, and provide for an adequate maintenance program;</p> <p>3. Avoid construction in fish bearing streams or in the habitat of any sensitive species during especially sensitive periods (e.g., during spawning runs of protected salmon populations).</p> <p>4. Enforcement of harbor district ordinance requiring that vessels flush ballast at sea.</p> <p>5. Delineation of protection zones around riparian and wetland areas for road/rail reconstruction and maintenance;</p> <p>6. Incorporation of riparian vegetation planting into construction or reconstruction projects in riparian zones when appropriate.</p> <p>7. Incorporation and consideration of the movement of resident or migratory wildlife species into project design.</p>	<p>This impact is considered less-than-significant.</p>
<p>Noise. The majority of noise impacts from mobile sources occur adjacent to higher volume roadways, train tracks and airports. Additional potential noise impacts include short-term noises related to demolition and construction activities and long-term impacts related to increases in travel volumes.</p> <p>Threshold. A significant noise impact is one where noise levels at the receptor or measurement point exceed locally established standards or there is a perceptible increase in ambient noise levels. For airport noise, 60 dB CNEL is the threshold of significance for adjacent residential uses.</p>	<p>1. Circulation projects included in the RTP shall comply with federal and state guidelines for roadway and vehicle noise.</p> <p>2. Implementation of the compatibility measures contained in the <i>Humboldt County Airport Land Use Plan</i> by Humboldt County and the cities of Eureka and Fortuna. These measures include adoption of appropriate land use designations and zoning, and acquisition of avigation easements where possible.</p> <p>3. Acquisition, on a voluntary basis, of those existing residences lying within the forecasted 60 dB CNEL contour as designated on the Airport Layout Plan for Arcata-Eureka Airport.</p>	<p>This impact is considered less-than-significant.</p>
<p>Public Services. Pipeline transport needs are generally being met by natural gas and water suppliers, through continued monitoring and upgrading of transmission systems. Greater consideration to designing energy conservation into transportation projects and selecting energy-efficient project alternatives is proposed in the 1998-00 RTP.</p> <p>Threshold. The potential impacts would be significant if planned improvements exceeded existing or planned pipeline capacities for the region, or if projected energy consumption exceeded existing or planned supplies, or delivery system capacity.</p>	<p>1. Implement RTP policies for pipeline management and routing, and for the use of low emission vehicles for energy conservation.</p>	<p>This impact is considered less-than-significant.</p>
<p>Cultural Resources. Road, highway, waterway or railway construction, reconstruction and maintenance activities where</p>	<p>1. Cultural resources (including but not limited to archaeological, paleontological and architectural sites, grave sites and</p>	<p>This impact is considered</p>

Table 1.1 SUMMARY OF IMPACTS

Environmental Impact and Threshold	Mitigation ¹	Significance after mitigation
<p>earthmoving or dredging occur have the potential to disturb or destroy recorded and unrecorded cultural resources. Paleontological and archaeological resources are particularly sensitive to heavy equipment excavation activities by which valuable stratigraphic information can easily be lost. Historic resources still in use (bridges, road corridors, structures) could potentially be altered or lost due to seismic retrofitting and transportation corridor widening.</p> <p>Threshold. A potentially significant impact to cultural resources is one where paleontological, archaeological or historical sites, assessed as significant, are damaged or destroyed.</p>	<p>cemeteries) shall be identified where feasible, assessed as to significance, and if found to be significant, protected from loss or destruction.</p> <p>2. The Northwest Information Center of the California Historical Resources Information Center and historical organizations shall be consulted during project review for the identification and protection of cultural resources.</p> <p>3. Archaeological and paleontological resources shall not be knowingly destroyed or lost through a discretionary action unless the resource has been found to be of insignificant value by relevant experts of the cultural resources community.</p>	<p>less-than-significant.</p>
<p>Aesthetics. The majority of the proposed roadways and roadway widening projects will not result in major changes in views or visual quality of the County. Similarly, most projects will have minimal lighting impacts. However, several of the long-term transportation projects, such as upgrading of US 101 and improvements to Route 299, have the potential substantially alter viewsheds. Extensive cut and fill or removal of native vegetation are examples of potentially significant impacts.</p> <p>Threshold. Impacts would be significant if implementation of the RTP substantially degraded the existing visual character or quality of the existing aesthetic natural, cultural or biological resources or created a new source of substantial light or glare which would adversely affect day or nighttime views.</p>	<p>1. RTP projects shall be designed to avoid the degradation of the existing visual character or quality of natural, cultural, or biological aesthetic resources. Design elements of new facilities located within identified scenic vistas should be as compatible as possible with the immediate vicinity.</p> <p>2. RTP projects shall be designed to include landscape screening and lighting design that minimize visibility of new transportation facilities from communities, and prominent aesthetic resources.</p> <p>3. RTP projects will be reviewed to ensure that the proposed lighting design will cause minimal spillover and glare for adjacent uses. Street and parking area lighting will be unobtrusive, with the lowest intensity compatible with safety, and will be directed downward and shielded to minimize impacts on adjacent residential uses.</p>	<p>This impact is considered less-than-significant.</p>
<p>Population/Housing. No displacement and relocation of residents and businesses are expected to occur as a result of implementing the proposed plan. Short-term construction and permanent employment opportunities created can lead to increases in the daytime and resident population. No increase in housing demand, beyond that projected for the region, is anticipated. Minimum impacts on population and housing are expected as a result of implementing the proposed plan.</p> <p>Threshold. The potential impacts would be significant if planned transportation improvements resulted in significant increases in population beyond that projected by the local jurisdiction or if the demand for additional housing exceeded planned supplies.</p>	<p>No mitigation measures are required.</p>	<p>This impact is considered less-than-significant.</p>

1. Many of the mitigation measures have been incorporated in the RTP, to effectively reduce potentially significant impacts to a less than significant level.

CHAPTER 2 PROJECT DESCRIPTION AND ALTERNATIVES

A. REGIONAL TRANSPORTATION PLAN PRINCIPLES, PURPOSE, AND ASSUMPTIONS

The guiding principle in preparing the RTP update is to provide a better balance between transportation system planning for all modes and land uses. This approach will result in lower cost for improvements and increased operational efficiency of the existing transportation system.

California Transportation Commission's RTP Guidelines, as revised December 1994, state that the purpose of a regional transportation plan is to:

- Resolve regional mobility issues and provide policy direction for local plans through the achievement of a coordinated, balanced regional transportation system including mass transportation, highway, railroad, aviation, bicycle and pedestrian facilities, recreational travel, and services;
- Identify and document the region's mobility needs and issues in terms of the transportation system, land use, financial needs, air quality and environmental considerations;
- Provide the foundation for transportation decisions by local, regional and state officials;
- Document the region's goals, policies and objectives for meeting current and future transportation mobility needs while meeting federal and state air quality requirements;
- Identify the specific actions planned to address the region's mobility needs and issues consistent with regional, State, and federal policies; and identify those agencies responsible for implementing the actions;
- Identify transportation improvements in sufficient detail to aid in the development of the Federal Transportation Improvement Program (FTIP), the Regional Transportation Improvement Program (RTIP), and the State Transportation Improvement Program (STIP), to be useful in making decisions related to the development and growth of the region;
- Document the financial resources needed to implement the RTP;
- Promote consistency between the California Transportation Plan, the regional planning process and local plans in responding to statewide and interregional transportation issues and needs by providing direction to the California Transportation Plan; and
- Inform the public, federal, state and local agencies, and local elected officials who make land use and other project decisions, of the transportation planning process and related socioeconomic, air quality and environmental concerns.

The Humboldt County Association of Governments has prepared this Regional Transportation Plan update based on these guidelines.

The 1996-98 RTP and subsequent plan updates contain assumptions on which the plans are based. Following is an updated list of assumptions used in developing this 1998-00 RTP update:

1. The 1998-00 RTP update is based on a 20-year planning horizon.

2. The annual growth in population in Humboldt County will continue at a rate of approximately 1 percent per year with the highest increases being experienced in the Fortuna area, McKinleyville, and unincorporated areas surrounding Eureka. The average age of the population will continue to increase.
3. Employment and housing will keep pace with population growth.
4. As the population increases, the automobile will continue to be the primary mode of travel in the county for both work and non-work trips.
5. Fuel will continue to be available but will experience price fluctuations and will be more expensive here than in more populated areas of California.
6. The air quality in the County will continue to improve due to technological improvements to vehicles and fuels and changes in goods movement.
7. There is a direct relationship between transit ridership and student enrollment at Humboldt State University, and this relationship will continue throughout the plan period.
8. The capacity of the state highway system varies with terrain and facility type. For this plan update, roadway capacities and level of service calculations were derived from national capacities contained in the Highway Capacity Manual (HCM).
9. The land use and transportation elements contained in local plans such as for the Cities of Arcata and Eureka will emphasize stronger land use/transportation coordination and promote use of alternative transportation modes.
10. Transit service will be extended to the following routes: Highway 299 east to Redding; Highway 101 south to Redway/Garberville; and Highway 101 north to Orick.
11. Transit vehicles will gradually convert to natural gas, and a centralized natural gas fueling station will be developed.
12. Only Arcata-Eureka, Murray Field and Rohnerville Airports will experience growth in based aircraft.
13. The Arcata-Eureka Airport will continue to offer scheduled passenger service to the San Francisco Bay Area, Sacramento, and to destinations in Oregon or Washington. Runways will be extended to accommodate jet aircraft, which will increase air travel volumes.
14. Traditional and non-traditional funding is becoming more available for non-motorized facility improvements.
15. There is a direct relationship between bicycle use and student enrollment at Humboldt State University and the College of the Redwoods, and this relationship will continue throughout the plan period.
16. Non-motorized facilities will continue to improve and become better connected with other modal systems. This will result in an increase in use of non-motorized (pedestrian and bicycle) transportation modes.
17. There will be an increase in the volume of goods moved in and out of the region by marine transport, due to Humboldt Bay channel deepening and harbor improvements.
18. The North Coast Railroad will resume freight and passenger excursion service to Humboldt County.
19. Truck volumes will continue to be a major element of the transportation system representing approximately 10 percent of travel on all state facilities.
20. Increase in tourism and travel spending resulting from recreational travel improvements will continue to increase at a rate of 2%.

21. Electricity usage in Humboldt County will increase 1.9% annually over the RTP planning horizon (California Energy Commission 1998a).
22. The demand for natural gas (excluding that used for electricity generation) will increase an average of 0.3% annually over the planning horizon (California Energy Commission 1998a).

B. THE PROPOSED PLAN

The HCAOG has been consistently implementing transportation projects and activities in accordance with past transportation plans. The 1998-00 RTP is being prepared to reflect changes in priorities, needs, available funds, and to take advantage of technological improvements affecting transportation systems. The 1998-00 RTP reflects the regional transportation priorities HCAOG has set for Humboldt County, with public input and assistance from technical advisory committees.

The 1998-00 RTP has the following characteristics and features, described by transportation mode:

Roadways (Highways, Roadways and Streets)

The Regional roadways of the County are primarily state highways, and principal County arterials, as shown on Figure 2.1. The overall roadway plan is described below.

State Routes. The RTP acknowledges the long term need for maintenance of the various routes in Humboldt County. Some improvements are planned to improve alignment, grade, and safety, primarily in substandard areas. Other improvements will alleviate congestion, primarily along US 101, between McKinleyville and Fortuna, which is the most traveled corridor in the County. Passing lane opportunities are also planned in some areas such as portions of SR 36 to continue mitigation of Federal barrier striping standards. Generally, LOS and volume to capacity ratios will remain adequate. As a result, capacity increasing projects have not been identified as needs on these routes (partially due to the terrain and lack of right-of-way). Some improvements, such as the SR 36 and US 101 interchange are planned projects. A more detailed list is provided in the Action Element.

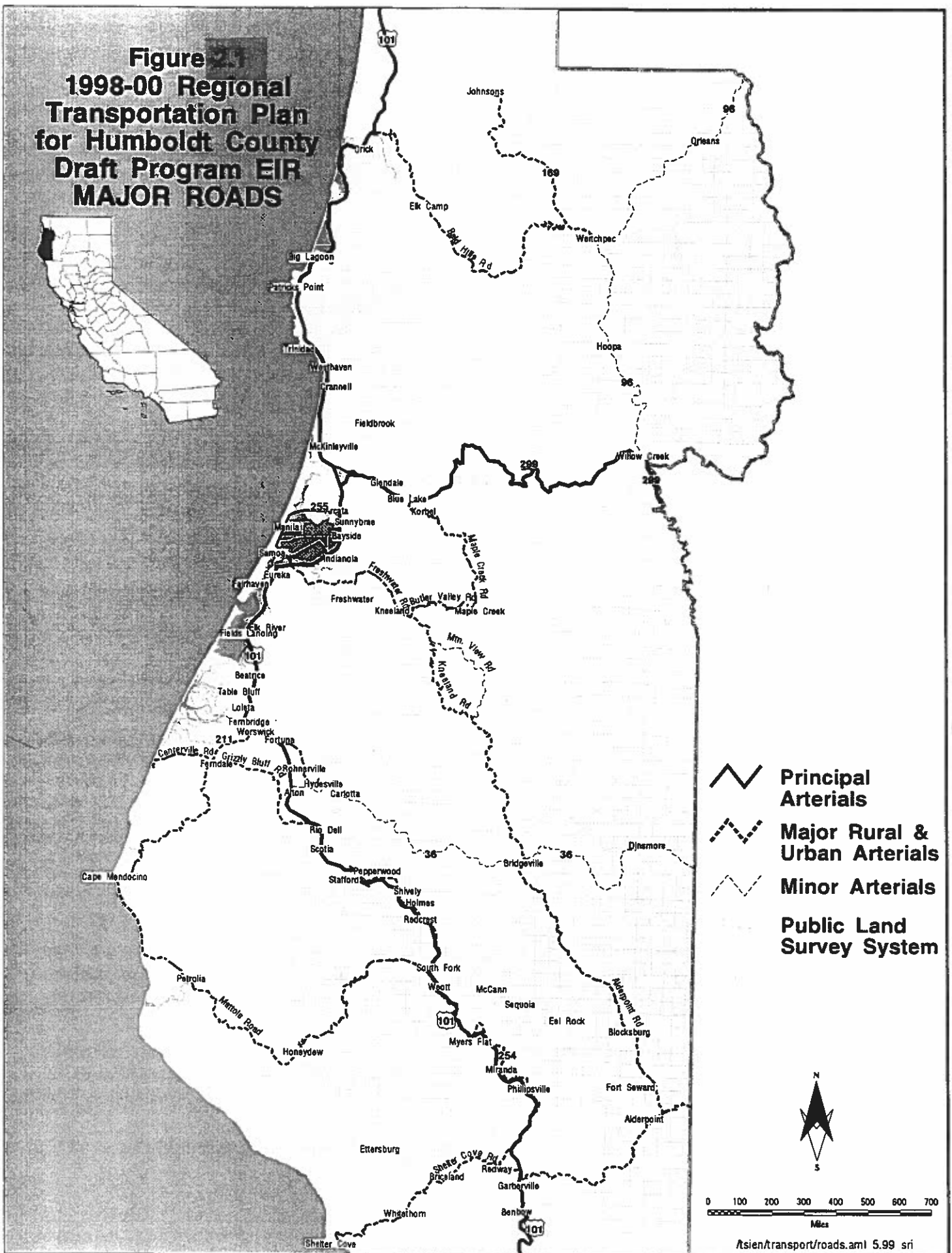
City and County Roadways. City street deficiencies and County road needs have historically been acknowledged in the RTP as maintenance needs, with few new streets being required. This continues to be the case, with the exception of Eureka and Caltrans' plans to develop circulatory solutions to U.S. 101 through Eureka. This could impact City streets if Waterfront Drive, Harris, or Herrick are developed as parallel alternates, or routes of choice for local traffic to bypass congested sections of Broadway.

The completion of Myrtle - Old Arcata Road is planned as a high priority alternate route, and to improve safety in narrow road sections. Humboldt Community Development Area Plans project growth in several communities along this thoroughfare which will further add to the need for completing this project in the future.

Additional City and County street improvements will most likely be related to residential development and the resulting access needs. Some of these may be subsidized in the future by developer's fees, or assessment districts as local officials seek creative means to finance improvements.

Other Roadway Improvement Plans. The Humboldt County Association of Governments serves as the Humboldt County Service Authority for Freeway

Figure 2.1
1998-00 Regional
Transportation Plan
for Humboldt County
Draft Program EIR
MAJOR ROADS



Emergencies (SAFE). As contained in the 1994 *Humboldt County Service Authority for Freeway Emergencies Call Box System Implementation Plan*, 144 call boxes will be planned to adequately cover US 101 and SR 299. Currently, sixty-seven boxes have been installed with the remainder planned for installation over a five to seven year period.

Transit

The three providers of public transit services in Humboldt County are the Humboldt Transit Authority (HTA), the Eureka Transit System (ETS) and the Arcata & Mad River Transit System (A&MRTS). The HTA proposes to expand, service area, hours of operation, and facilities, during the RTP's time frame. Service is proposed to be extended to serve the Highway 299 corridor, from Highway 101 in Arcata, to Interstate 5 in Redding; the Highway 101 south corridor between Eureka and the Redway/Garberville Area; and Highway 101 north between Eureka and Orick. These routes will only be served if the HTA is successful in securing grant funds for additional buses, and if partnerships can be formed with agencies involved in implementing local employment training and job development programs. The HTA will also propose increased hours of operation, to include evening and weekends.

- HTA is planning the development of the Intermodal Transportation Center (ITC). The ITC would be the anchor for the western part of the downtown part of the City of Eureka. It would provide a central location where locals and tourists (passengers from cruise ships, North Coast Railroad, and motorists) could access local transportation systems. The ITC would generate revenue for HTA for its use in purchasing buses and improving transit operations.
- The existing ETS routes are expected to keep pace with transit demand. Recommendations for future changes include increasing service through frequency improvements and extending evening and weekend service as funds allow. Major route restructuring is not recommended unless there are major land use changes and development that occur over the life of this RTP.
- A&MRTS currently operates two loops (Red and Gold) and will redesign the Red Route to be a straighter and provide half-hourly service between HSU and downtown, and between downtown and the Sunny Brae area. Evening service is also proposed on the Red Route, to allow students to stay at school later in the evening. Evening service could only be considered by A&MRTS with additional sources of funds, and only during the school year.

Aviation

Of the nine airports in the County only Arcata-Eureka Airport is planned to have scheduled passenger service during the period covered by this RTP. The Federal Aviation Administration's most recent *Terminal Area Forecast* predicts a doubling of enplanements at the Arcata-Eureka Airport over the next 16 years. Enplanements are expected to grow from about 96,000 in 1998 to about 198,000 by the year 2015. Runway expansion is planned for this airport.

The other eight airports will continue to serve general aviation and emergency uses. The total number of based aircraft at all County airports is expected to grow from about 191 in 1998 to 238 in the year 2015. The total number of airport operations is expected to grow from 225,829 to 266,046 for that same period.

Bicycle and Pedestrian Travel

The 1998-00 RTP encourages the elimination of barriers in the system of bicycle and pedestrian facilities. It also promotes the development of connections in and between existing components of the system. Education, coordinated planning, the creation of guidelines for required improvements when development occurs, and facilitation of connections between transportation modes are other improvements identified in the plan.

There are several methods for implementation of planned bicycle and pedestrian improvements. Assessment of bicycle and pedestrian needs should be incorporated early in the planning of traditional transportation projects. When identified early enough in the planning process, pedestrian and bicycle improvements can frequently be added into projects with little additional costs or with costs covered by supplemental funding sources. Further, bicycle and pedestrian components should be incorporated as a part of traditional projects. Other methods of implementation include cooperative public-private projects and better utilization of existing grant funding.

Goods Movement

Goods Movement includes provisions for truck travel as one entity for the movement of raw materials and goods. Regional truck routes are identified. Existing rail and marine freight facilities, and the status of rail and marine transport, are described and mapped. The plan assesses the goods movement needs that could be served by rail, should rail service resume.

Recreational Travel

Tourism and recreational travel are an important and steadily increasing segment of the Northern California economy. Humboldt County contains many opportunities for the most popular forms of recreation including outdoor activities, cultural and historic attractions, and destinations for package tours. Travel by personal automobiles and recreational vehicles is the predominant means of transport for tourism and recreation within the region. There is also an increasing number of "packaged" chartered bus and cruise ship tours bringing visitors to the region.

Proposed recreational travel improvements include incorporating recreational travel needs into transportation project planning early in the process; improving inter- and intra-regional access to attractions and communities in the county; developing facilities for R. V. and bus parking; constructing additional boat and river access points, staffed visitor stations, and roadside rest facilities; and improving the marketing of the region's attractions.

While recreational travel has traditionally been assigned secondary priority when compared to traditional transportation improvements, the growing importance of tourism to the region's economy dictates that alternative implementation strategies be developed. Considering recreational travel needs in the planning and implementation of traditional projects can facilitate some recreational travel improvements. Developing public-private and multi-jurisdictional projects can also be a source of implementation resources. Utilization of non-traditional sources of funding such as grants can provide improvement funding. Additional grant funding can also be accessed by cooperation between transportation and economic development communities.

Transportation System Management (ITS, ATS, TDM)

This section of the plan describes TSM measures in general and existing TSM programs in place, including major signal coordination projects, Intelligent Transportation Systems (ITS), etc. It summarizes the Rural California Oregon Advanced Transportation System (COATS) project being implemented in Northern California and Southern Oregon. This section also includes Transportation Demand Management (TDM) measures in general and specific programs that exist (e.g. Humboldt State University).

Pipeline Transport and Energy Conservation

The status of existing and planned pipelines for regional water supply, wastewater, natural gas, and electric transmission lines are described in this section. The potential need for new pipelines is evaluated, with particular attention paid to recent community efforts to bring a new gas pipeline to the north spit of Humboldt Bay. Potential needs for seismic reliability improvements to existing pipeline systems are evaluated. Factors limiting the County's ability to develop needed pipelines are identified. The plan addresses the need and regional benefits of energy conservation, and the status of existing conservation programs.

Other RTP Provisions

The RTP also includes provisions for:

Land Use/Transportation Relationship. The RTP will be coordinated with the local land use plans, such as General Plans and other local area plans. RTP transportation analysis will demonstrate that there is support for local land use plan policies.

Clean Air Requirements. The RTP Action Plan will include measures for maintaining air resources. Humboldt County is located in North Coast Unified Air Quality Management District (NCUAQMD), and although local air quality exceeds standards for only one pollutant (PM-10) as measured by the State Air Resources Board (ARB), the RTP will include provisions to maintain air quality.

Financial Constraints. The RTP will include an assessment of available financial resources and projects that can realistically be funded. RTP guidelines dictate a "cost feasible" transportation plan which best meets regional transportation needs and can be realistically funded.

C. PLAN ALTERNATIVES

The EIR will identify three alternatives to the 1998-00 RTP. These include the a transit/alternative mode oriented alternative, a fully funded RTP alternative, and an existing RTP (no-project alternative).

Alternative Modes Alternative

This alternative would allow for a more developed transit, bicycle and pedestrian system linking population centers of the County. Transit service improvements would include expanded weekend and evening service, in addition to the extended services to east, south and north county areas, and more frequent service on established routes. Bicycle and pedestrian improvements would focus on improved facilities between residential and activity centers, such as schools, shopping and employment areas. It would also include expanded air, rail and bus service in and out of the County for improved interregional travel. Passenger rail service would be provided along the NCRA route

linking Humboldt County with metropolitan areas to the south, and between Eureka and Arcata, also using established freight rail facilities.

This alternative would support mixed use development in urban areas and more transit oriented development. The Alternative Modes Alternative would continue to develop all projects identified in the RTIP. The intermodal center planned for Eureka would be included, and intermodal facilities in other cities would be developed. It would also include transportation system management measures for improved traffic flow, more park and ride lots and ridesharing programs, and more bikeway and pedestrian projects.

Fully Funded RTP Alternative

This alternative would contain full funding for identified but currently unfunded highway improvements, including the upgrading of US 101 to freeway the entire length of Humboldt County. This would include not only the upgrading of the roadway through Richardson Grove in the south county, but also between Trinidad and the Del Norte County line. The segment of US 101 between Eureka and Arcata would be upgraded to freeway status. Roadway improvements to Highway 299 east of Blue Lake to the Trinity County line, as designated in route concept reports, would also be included.

This alternative would prioritize funds for roadway development and potentially defer or delay improvements for other modes, such as transit services and bicycle and pedestrian facilities. This would emphasize the use of single occupant vehicles rather than the more balanced transportation approach taken in the proposed RTP.

No Project (1996-98 RTP) Alternative

The No-project alternative preserves baseline conditions and assumes that the existing 1996-98 RTP would continue to be implemented. Under this alternative transportation projects would be limited to those with approved funding. Maintenance projects would continue to be carried out based on available roadway funds.

Highways, roadways and streets would be developed only if they were in the current STIP. The no-project alternative assumes no expansion of transit service, such as the planned Highway 299 service, and extended services along the US 101 corridor to north and south county areas. Vehicle trips would continue to increase at current rates, with less emphasis on developing alternative transportation modes.

Planned projects without sufficient funds for completion, such as the US 101/Highway 36 interchange would not be built and the Eureka - Arcata US 101 Corridor Improvement Project would not be completed. The planned intermodal facility in Eureka would not be completed. Other programs and policies included in the 1998-00 RTP but not a part of the 1996-98 RTP such as Advanced Transportation Systems, and policy encouraging low emission vehicles, would not be implemented.

CHAPTER 3 ENVIRONMENTAL SETTING

A. LAND USE

There are seven incorporated cities in Humboldt County: Eureka, Arcata, Fortuna, Trinidad, Rio Dell, Ferndale and Blue Lake. Eureka is the largest city, with its incorporated area and surrounding populated area accounting for approximately 40 percent of the County's population. Eureka is also the county seat. Outside of the cities, the County is comprised primarily of smaller unincorporated communities, rural, agricultural and forested lands. McKinleyville is the largest unincorporated community in the County. With an estimated 1997 population of 12,333, it is the third largest community in the County, after Eureka and Arcata. It is also one of the fastest growing areas of the county.

Public and private lands in timber production, public lands not devoted to timber production, and agriculturally designated lands or agricultural preserves make up almost 90 percent of Humboldt County's land base. The distribution of land uses in the County is shown in Table 3.1.

Table 3.1. Humboldt County land use distribution.

Area	Acreage	% of Total
State & Federal Public Lands Devoted to Timber Production	485,191	21%
State & Federal Public Lands Not Devoted to Timber Production	145,655	7%
Incorporated Cities	23,143	1%
Humboldt County Timberland Production Zone	991,609	43%
Lands designated for Agriculture (not in Williamson Act Contracts-Force Figure)	209,879	9%
Agricultural Preserves	198,814	9%
Areas designated for rural development (outside Community Planning Areas)	131,471	6%
Community Planning Areas excluding Coastal Zone Area Plans	100,480	4%
County Total	2,286,720	100%
Source: Humboldt County Framework Plan, 1984, Humboldt County Planning Dept.		

B. CIRCULATION

1. Roadway System

Humboldt County's surface highway system consists of 378 miles of Federal and State Highways, and approximately 1,400 miles of local city streets and county roads. These provide inter-regional and intra-regional opportunities for the movement of people and goods on the North Coast.

The majority of state roadways in Humboldt County are classified as either principal arterial (PA) or minor arterial (MA). US 101 and Highway 299 are classified as principal arterials, and are the most important regional and interregional roadways in the county. A few roadways on the state system are classified as major or minor collectors. Humboldt County uses a further designation of urban or rural for selected arterials and collectors throughout the county.

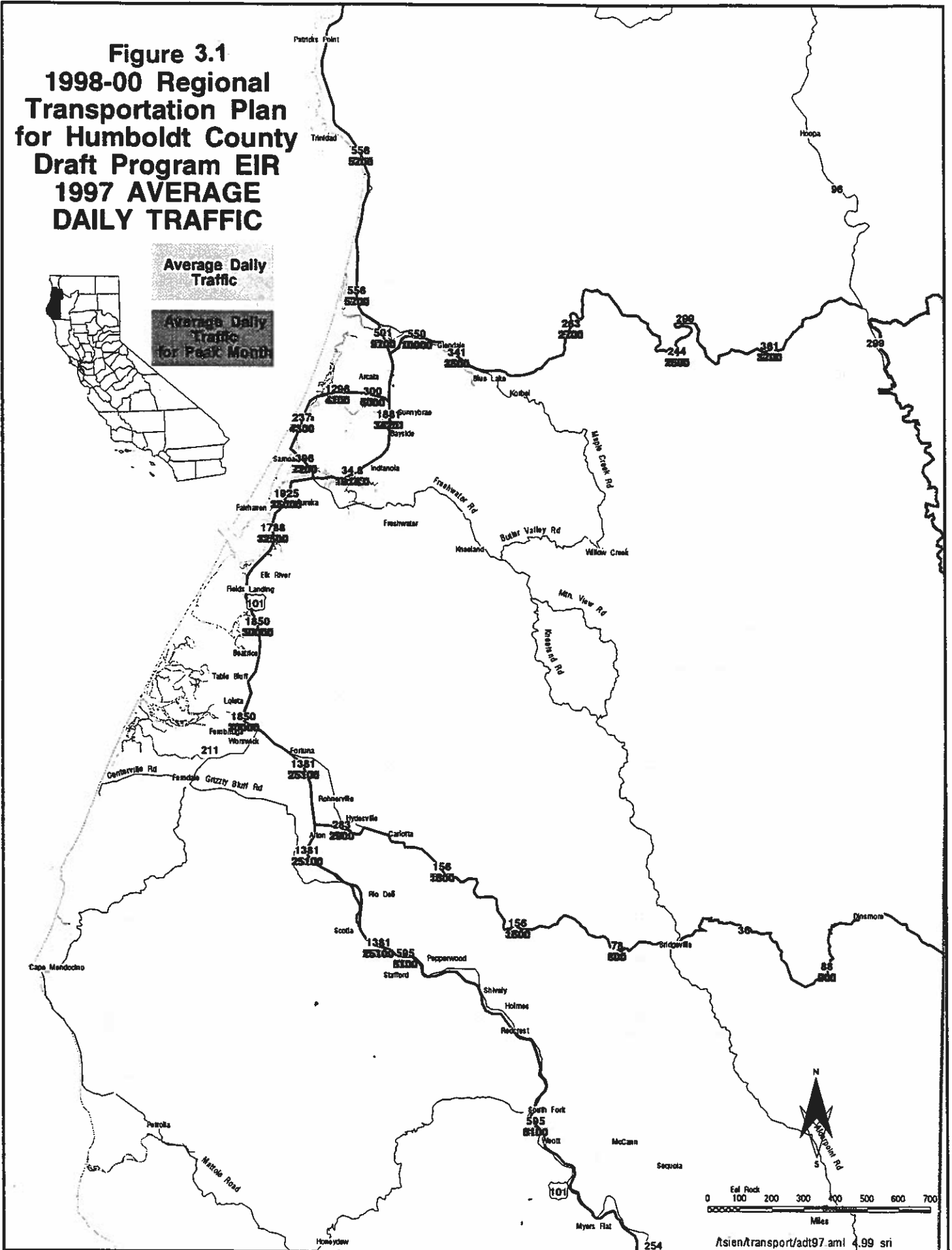
Principal and minor arterials, shown in Figure 3.1, constitute routes whose design is intended to provide for relatively high overall travel speeds with minimum interference to

**Figure 3.1
1998-00 Regional
Transportation Plan
for Humboldt County
Draft Program EIR
1997 AVERAGE
DAILY TRAFFIC**



Average Daily Traffic

Average Daily Traffic for Peak Month



through movement. In Humboldt County, the arterial system consists mainly of the state highway system. In addition, Central Avenue which parallels US 101 in McKinleyville was classified as a principal arterial in the 1996-98 RTP. In addition, Bald Hills Road is classified as a major rural arterial.

Major collectors, according to the Federal Highway Administration, provide service to larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance, such as schools, shipping points, County parks and important agricultural areas. Essentially, major collectors serve the more important intra-county travel corridors with some inter-county connections. In Humboldt County, the major collector system consists of both state and county roadways including State Routes 211, 254, 283 and portions of 169. Major collectors on the county road system include Mattole Road, Centerville Road, Grizzly Bluff Road, Fresh Water Road, Indianola Road, Kneeland Road, Maple Creek Road and Field Brook Road.

Minor collector routes provide service to the remaining smaller communities, link the locally important traffic generators with their rural hinterlands, and are spaced at intervals consistent with population density. Their function is to collect traffic from local roads and bring all developed areas within a reasonable distance of a major collector road to access the principal arterial system. The alignment of minor collectors is often dependent on the terrain. Examples of minor collectors in Humboldt County include Greenwood Heights Drive and Fickle Hill Road.

The remaining rural local road system in Humboldt County serves primarily to provide access to adjacent land and to allow for shorter travel between destinations. There is a need for a general access and connectivity policy for abutting land uses. For this RTP update, the focus for street and highway improvement programs, at least in the next five to ten years, will be to primarily maintain the existing transportation system.

2. Transit

Public transit programs have existed in Humboldt County dating back to the Union Plank Walk and Wharf Track Railroad in Arcata, and surface street trolley cars in Eureka. Today, Humboldt County is served by three public transit systems; the Eureka Transit Service (ETS), Arcata & Mad River Transit System (A&MRTS), and the Redwood Transit System (RTS). In addition to public transit, there are paratransit and private transit systems operation in the County

Eureka Transit Service (ETS). The City of Eureka offers both fixed route and demand-responsive service. The system is co-owned and co-funded by the City and County of Humboldt through an agreement to extend service into the contiguous unincorporated areas. Per the agreement, 73% of system costs are to be funded by the City of Eureka and 27% are to be funded by Humboldt County.

Arcata & Mad River Transit System (A&MRTS). The A&MRTS program, the first in Humboldt County, provides a two route pulsing loop system within the unincorporated boundaries of Arcata. The A&MRTS fleet consists of four 30 foot buses, and two smaller Dial-A-Lift vehicles. There are three 16' and ten 8' covered passenger shelters. Pedestrian benches are located at most stops.

Redwood Transit System (RTS). The RTS program is delivered by the Humboldt Transit Authority to its joint powers members, and other contracting entities. The system provides fixed route service along the U.S. 101 corridor from Trinidad in the north to Scotia in the south. The City of Arcata

contributes funds to the operation of Redwood Transit. The RTS fleet consists of nine large transit vehicles, and four smaller vehicles, which are all lift equipped. Bikes are allowed on buses and passenger amenities include sixteen covered bus stop shelters.

Paratransit Services. "Dial-A-Ride" services were established in January 1979 as an experimental system to determine the needs of elderly and handicapped people who could not use the existing public transportation system. It is a demand-responsive system providing service in and between the Cities of Eureka, Arcata and the McKinleyville community. The services are now funded by the cities of Eureka and Arcata, and Humboldt County on a share-of-cost format. Other providers of paratransit services include the Humboldt County Association for Retarded Citizens, Care-A-Van, the Humboldt Community Access and Resource Center, and others.

Private Transit Providers. Providers of private transportation services in and out of the County include Yellow Cab of Eureka, Greyhound, AMTRAK, the Southern Humboldt Rural Transit Service (the "Quail"), and others.

3. Aviation Facilities

The air transportation system serves a broad range of aircraft types and aeronautical uses. Aeronautical uses include passenger service, cargo transport, fire suppression, search and rescue, and combat. To some degree, all of these uses are accommodated by the system of airports in Humboldt County.

For transportation planning purposes, four categories of aviation use are typically measured:

- Passenger enplanements (an enplanement is one passenger boarding)
- Cargo tonnage
- Aircraft operations (i.e., one landing or one takeoff)
- Based aircraft

4. Bicycle and Pedestrian Facilities

The quality and quantity of bicycle and pedestrian facilities varies widely throughout the region. Bicycle and pedestrian facilities (including facilities for the mobility-challenged) in Humboldt County include for the most part sidewalks, crosswalks, and bicycle lanes associated with the road system. Cyclists are granted full access to all State Route facilities in Caltrans District 1, which includes all of Humboldt County. A number of community and public land trail systems provide transportation and recreation opportunities. Most facilities dedicated exclusively for non-motorized use are provided in urban areas of the county. Goals and policies for bicycle facility development, existing and planned bicycle facilities, and related implementation plans are described in HCAOG's 1997 *Humboldt County Regional Bicycle Facilities Plan*.

The best, and only, example of a Class I bike path (Table 3.2) in Humboldt County is the Hammond Coastal Trail in McKinleyville, which provides a non-motorized environment for both transportation and recreation purposes. There are a few other trails of significant length in or near communities that provide for both transportation and recreation, and a large number of recreational trails on State and National Park, National Forest, Bureau of Land Management, and County or City lands. There are many short trail segments unofficially created by the public to fill the unmet needs of pedestrians and cyclists.

Table 3.2. Bikeway definitions from Caltrans Highway Design Manual.

Name	Facility Classification	Description*
Bike Path	Class I	Separated, surfaced right-of-way designated exclusively for non-motorized use. The minimum width for each direction is 1.5 meters, with a 2.4 meter minimum width for a bi-directional path.
Bike Lane	Class II	White stripe and Bike Lane sign on roadway providing 1.5 meters of road surface for preferential bicycle use (not including gutter). Vehicle parking adjacent to and motorist crossflow is allowed. Bike lanes must be on both sides of a two-way road for one-way travel only.
Bike Route	Class III	Shared roadway with motorists on through routes not served by Class I or II bikeways or to connect discontinuous bikeways. Established by a Bike Route sign.

*All roadways are open to bicycle use in Humboldt County; the listed facilities further accommodate bicycles.

Bicycle Use

The cycling population is made up of bicycle commuters (those who use the bicycle for daily trips), recreational cyclists and touring cyclists; and those who use multiple modes such as bicycling and transit. While cycling is a choice for some, many cycle because they do not have access to other modes of transportation. Those who utilize bicycle transportation out of necessity are frequently children, low income members of the community, and college students.

Data from the 1990 Census indicates that in Humboldt County, 721 persons aged 16 years or older used a bicycle for work-related trips, a figure which is double the public transit work commute for the same period (HCAOG 1997). Census information is not provided for individuals who use bicycles for other daily trips or school trips. According to the Regional Bicycle Facilities Plan, both Humboldt State University (HSU) and College of the Redwoods (CR) "have significant potential cyclist populations," with HSU generating "more cyclists because of its larger enrollment, parking constraints, and location in the City of Arcata." Data from the *Humboldt Bay Area Bicycle Use Study* (RCAA 1999) indicates that over nine hundred cyclists passed through one intersection near HSU during a twelve-hour period on a weekday. Refer to Bicycle Use Study data highlights below for general characterizations of bicycle travel.

Bicycle Routes and Facilities. Dedicated bicycle facilities are provided for the most part in urban areas of the county. Bicycle facility types are summarized in Table 3.2. Bicycle lanes exist in Eureka, Arcata, McKinleyville and Fortuna. The City of Arcata provides the most interconnected system of bicycle lanes that facilitates access to and from a number of trip-generating areas. In Eureka, the bike lane system includes both north-south and east-west lanes, however, not all trip-generating areas are connected. Both McKinleyville and Fortuna have limited systems of bike lanes and designated routes. Further, many of the existing bicycle lanes in the region do not meet current state standards. Bike lane width standards were increased from four feet to 1.5 meters in 1997, consequently, many bike lanes constructed before that time do not meet the new state width standards.

The presence of adequate parking facilities impact the transportation choices of many cyclists. Overall, bicycle parking facilities outside of Eureka and Arcata business centers are sporadic, and few are sheltered from weather. The communities of Arcata, Eureka, and McKinleyville have recently installed new low-maintenance, easy-to-use bicycle parking facilities. However, much of the older bicycle parking facilities in the region either do not accommodate contemporary bicycle designs or have lost function as they aged.

Humboldt Transit Authority provides bike-on-bus racks on all buses. This is a regional service, since HTA buses travel from Scotia to Trinidad, however only designated bus stops are available for loading and unloading bicycles. Cyclists need a permit to use the racks.

Numerous bicycle (or human-powered vehicle) events in the county include Bike to Work Day, Tour of the Unknown Coast, the Kinetic Sculpture Race and a number of other fundraising tours.

Pedestrians

Pedestrians typically include all segments of the population, but those that rely on pedestrian travel the most are: elderly, children, college students, low income and those who are otherwise unable to utilize other modes or who combine walking with other modes of transportation. People with disabilities comprise a substantial part of the population, especially including elderly citizens who have a variety of mobility and sensory limitations.

Pedestrian Facilities. Facilities utilized by pedestrians and people with disabilities are generally sidewalks, crosswalks, and, where these facilities are not available, road or highway shoulders. Many of the rural roadways in the county do not provide any facility for pedestrians and pedestrians must walk in the travel path of the road. In a few areas, multi-use or walking pathways or trails serve as transportation corridors.

Pedestrian facilities are most commonly provided in urban areas of the County (including a number of unincorporated communities). Where these facilities do exist, they most often meet only the minimum ADA standards. Existing sidewalks are often obstructed by utility poles, sign posts, street furniture and/or driveways which force wheelchair users into road shoulders or bicycle lanes.

In recent years, responsible entities have installed more curb cuts and otherwise improved wheelchair access. There remain numerous gaps in the system of sidewalks, curb cuts and street crossings. Existing pedestrian street crossings in some areas are difficult to negotiate, particularly for the mobility impaired.

Many smaller communities or neighborhoods in outlying areas of the county have no dedicated pedestrian facilities. A number of communities are bisected by very busy state routes or county roads with no or limited crossing facilities. In and between most of these smaller communities, pedestrians must use roadways because, for the most part, no separate pedestrian facilities exist.

5. Goods Movement

Truck. Goods movement includes the transport of commodities by truck, rail and marine transport. Truck transport is the primary method of goods movement in, out and around Humboldt County. Currently there is no interregional rail service to or from Humboldt County. This service is scheduled to resume in 1999, according to the North Coast Railroad Authority. Both ocean-going vessels and barges are used for the transport of commodities in and out of Humboldt Bay.

The transportation of the logs from the forest to the sawmill or other processing plant represents a significant part of truck volumes in the county. Timber harvest areas are becoming further removed from the sawmills, causing longer and more dispersed truck flow patterns in the County. In addition, recent reductions in the number of sawmills within the County require logging trucks to travel greater distances, often over city streets.

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The primary corridor for transporting forest product to the finishing plants and to the consumer is south to the San Francisco and Los Angeles areas for connections with other carriers for national and international distribution. Secondary corridors are east to Redding and the Sacramento Valley and north to the Port of Coos Bay, Oregon.

The primary arterials used by the timber industry are State Routes 101 and 299. These major State highways provide the trucker adequate facilities and level of service for their operations except during summer months when periods of congestion are the highest due to incidence of recreational travel on these routes. Other State Routes experiencing truck volumes include SR 36, 169, 200, 211, 254, 255, 271 and 283. Specific levels of truck traffic expressed as a percentage of total volume at various locations on State routes in Humboldt County, are shown in Table 3.3.

Table 3.3. Truck traffic as a percentage of total traffic volume at various locations on State and US Routes in Humboldt County.

Route	County Location	Percentage of Trucks
SR 36	Junction with Route 101	14.2
SR 36	Alderpoint Road	14.6
SR 96	Junction with Route 169 West	8.8
US 101	Mendocino County Line	13
US 101	Sprowel Creek Road	21.7
US 101	Junction with Route 36 East	9.6
US 101	Junction with Route 299 East	7.6
US 101	Del Norte County Line	11
SR 169	Wauteck Village	20.0
SR 211	Junction with Route US 101	5.0
SR 254	Junction with Route US 101	5.0
SR 255	Junction with Route US 101 NB	6.7
SR 271	Temporary Junction with Route US 101	25.8
SR 283	Eel River Bridge	3.5
SR 299	Junction with Route US 101	15.0
SR 299	Junction with Route 96 North	12.0
SR 299	Humboldt /Trinity County Line	18.8

Source: Caltrans, 1997 Truck Traffic Volume Counts

Rail. The Northwestern Pacific Railroad (NWP) was acquired by the North Coast Railroad Authority in 1996. The NCRA has taken advantage of railroad rehabilitation programs made available by Caltrans and the California Transportation Commission, and invested over \$6 million in reducing the property's deferred maintenance liabilities. The State has invested approximately 23 million since 1992 (10 million from Proposition 116 and 13 million from Transit Capital Improvement funds). In addition, 25 million in federal demonstration funds and 12 million in Q-funds have been invested in the line.

When the line does operate, it provides freight service five days a week and occasional excursion passenger service on weekends and holidays. The service operates from Korbek south to Ignacio and east to Schellville and Lombard. The main line extends 160 miles from Eureka to a point approximately three miles north of Healdsburg. From Eureka, the Korbek branch extends 11.5 miles north through Arcata to Korbek, where it connects with the Arcata and Mad River branch (A&MR). The A&MR branch extends seven miles to a point near Korbek—the rails and ties on this route were salvaged in late 1997. The Samoa branch runs

from Arcata south along the coast for 10.4 miles to Fairhaven. From Alton, 21.4 miles south of Eureka, a branch extends five miles to Carlotta.

Marine. The Port of Humboldt Bay is the largest marine shipping facility between San Francisco Bay, located 225 nautical miles to the south, and Coos Bay Oregon, located 156 nautical miles to the north. The Port's shipping facilities consist of rock jetties, bar and entrance channels, maintained shipping channels, turning basins, and dock facilities. There are six maintained channels in Humboldt Bay.

6. Recreational Travel

Tourism and recreational travel are an important segment of the Northern California economy, contributing millions to the Humboldt County economy annually (County Office of Economic Development). This industry has increased 5.1% since 1992 (Ca. Trade & Commerce Agency 1997).

Much of the original development in Humboldt County can be tied to resource extraction and ranching. The same natural resources that historically drove the economy, now provide an important resource for attracting visitors to the local area. As the region's economy changes, tourism has been identified as a means of economic diversification and development. How communities attract tourism will affect their survival. One of the major factors influencing tourism development is the proximity of a community to major transportation corridors (Sheffield 1995). Thus, transportation and transportation projects, are fundamentally tied to the success of tourism in the region.

Even though tourism and recreational activities are a significant part of the Humboldt County economy, little information has been gathered specifically relating to recreational travel. Only one recreational travel study has been conducted in Humboldt County. Conducted by Caltrans in 1976 for HCAOG, the study gathered information on State Routes 101, 299, and 36, and documented the purpose of trips, volume of recreation-related traffic in relation to total traffic, destinations and origins of travel, and types of vehicles used. The study was conducted in August, during peak recreation season.

Results of the study include:

- On US 101, 63-65% of non-truck traffic was recreational
- On SR 299, 61% non-truck traffic was recreational
- On SR 36, 37% non-truck traffic was recreational
- 25% of all non-truck traffic is composed of recreational vehicles
- Campers were 12%, motorhomes 4%, and vehicles with trailers 9% of non-truck traffic
- Non-residents accounted for 88% of recreational travel
- Average length of stay was 1.9 days

It is important to note that the methodology of the study asked respondents for the purpose of their last and next stops—not of the overall purpose for traveling. The researchers suggest that this limitation resulted in underestimating the number of recreational trips by 15% or more (HCAOG 1976).

According to the California Division of Tourism, there were 1.5 million recreational person trips in Humboldt County in 1997. The average expenditure per day (statewide) was \$63.60 and shopping is the favorite leisure activity, followed by outdoor recreation and visits to historical sites and museums.

While opportunities for shopping are limited in Humboldt County when compared to more metropolitan areas within the state, the area contains many opportunities for outdoor recreation. Redwood National and State Parks, Humboldt Redwoods State Parks, Richardson Grove State Park, King Range National Recreation Area, Six Rivers National Forest, a small portion of the Trinity Alps National Wilderness Area, Sinkyone State Wilderness Area, and the many rivers, such as the Trinity and Klamath, attract several million visitors to Humboldt and surrounding counties each year (Ca. Tourism Research 1999). In addition, Humboldt County has many unique cultural and historical attractions, as well as over 200 special events to attract visitors. Unique attractions in the County include Fort Humboldt, the many examples of Victorian architecture exemplified by the Carson Mansion, and such special events as the Tour of the Unknown Coast, Kinetic Sculpture Race, Reggae on the River, Eureka Dixieland Jazz Festival, and Avenue of the Giants Marathon.

Travel by personal automobiles and recreational vehicles is the predominant means of transport for tourism and recreation both statewide and within the region. Statewide, air travel is the second most popular mode, with bus and train use third.

There is an increasing number of "packaged" tours bringing visitors to the region. These tours include both chartered buses and cruise ships. Passenger rail is not available, although the NCRA has indicated interest in establishing passenger service if possible in the future. Although improved and affordable public air transport into the region has been identified as much needed and would certainly increase tourism, as costs and competition between airline carriers increase, the region is experiencing lower levels of air transport (Sheffield 1995).

There are a variety of tourism and related services available including public and private camping facilities, lodging, and food service. More specialized goods and services, such as bicycle rentals, camping equipment rentals, as well as canoe and kayak rentals are available in Arcata and Eureka. In addition, Humboldt Bay harbor cruises, fishing charters and sail can be found near the bay.

C. GEOLOGY

Humboldt County's landscape has influenced transportation planning, development and maintenance greatly over time. The diverse, often rugged terrain of the region substantially influences both location and stability of land-based travel corridors. High rainfall and river levels affect slope stability and subsequently road and rail alignments. Added to steep slopes and a relatively wet climate, uncohesive soil types of the region (especially those of the Franciscan Formation) can facilitate slope instability.

Seismicity. The following regional setting information (indented) is excerpted from the Seismic Vulnerability Assessment prepared for the Humboldt Bay Municipal Water District and the McKinleyville Community Services District.

The Humboldt Bay region lies in an area of complex tectonic interaction among the Gorda, North American, and Pacific plates. Earthquake sources are divided into three basic types: 1) "interface" sources associated with the Cascadia subduction zone (the interface is the division between the North American and the Gorda plates), 2) "interslab" sources associated with the Cascadia subduction zone (sources that lie within the subducting Gorda plate), and 3) crustal sources lying within the North American plate.

The rates of observed seismicity during the historical and instrumental record in the Humboldt region have been relatively high. Nearly all of these events have occurred within the Gorda slab or, to a lesser extent, within the North American crust.

Within the Gorda plate, the density of seismicity increases towards the Mendocino triple junction, with several northeast trending patterns evident. Within the North American plate (and the underlying subducting Gorda plate) seismicity is also concentrated near the triple junction, decreasing as one moves north into Oregon (G & E Engineering Systems Inc. 1996).

The regional geologic conditions make the California North Coast, including Arcata, vulnerable to earthquakes, groundshaking, and liquefaction. Earthquake types and other geologic characteristics of the region are described in this section.

The Cascadia Subduction Zone. North of the triple junction, the Gorda plate and its northern extension, the Juan de Fuca plate, move eastward on a collision course with the North American plate. The Gorda plate slowly descends beneath the North American plate along the Cascadia subduction zone. Most scientists believe that the upper 50 or so miles of the contact between the Gorda and North American plates is locked. This boundary is called the megathrust. All of the world's greatest earthquakes (magnitude 8.5 and larger) are associated with ruptures of megathrusts.

A thrust fault slants gently like a ramp relative to the earth's surface. Earthquakes along a thrust fault push the rock above the ramp up and over the rock beneath it. The Northridge earthquake in 1994 occurred along a thrust fault. In subduction zones, the boundary between the plates resembles a giant thrust fault, extending hundreds of miles in length. The locked part of the subduction interface is known as the megathrust.

The last great subduction zone earthquake occurred about 300 years ago. There are no written records of past Cascadia earthquakes but their effects are recorded in sediments, trees and the oral history of native peoples. Studies suggest that these earthquakes recur with intervals on the order of hundreds of years. Scientific evidence increasingly suggests the eventual recurrence of such earthquakes. The enormity of their possible effects make planning and preparedness efforts essential for individuals, communities, and all levels of government.

Fault and Liquefaction Zones. Several known faults exist in the County, generally in a southeast to northwest alignment. There are several Alquist-Priolo special study zones within the County boundaries. An Alquist-Priolo special study zone is a state designated seismic hazard zone along traces of potentially and recently active faults, in which specialized geologic investigations must be prepared prior to approval of certain types of new development.

Liquefaction, the behavior of soil like a fluid, can occur with severe earth shaking. Areas of high liquefaction potential are found near Humboldt Bay. Liquefaction potential is enhanced during the winter, when groundwater tables are high.

Tsunamis. There is a prehistoric record of tsunami events along the north coast shoreline. A tsunami is a series of sea waves most commonly caused by earthquakes beneath the sea floor. Similar to a tsunami, a seiche is a seismically-induced wave or series of waves in a bay or other inland water body. In the open ocean, tsunami waves travel at speeds of up to 600 miles per hour. As the waves enter shallow water, they may rise to several feet or, in rare cases, tens of feet, and can cause great loss of life and property damage where they come ashore. It is generally accepted that people and

facilities above 100 feet of elevation or two miles inland are relatively safe from hazards of the largest tsunami (Redwood Coast Tsunami Work Group 1998).

Tsunamis that can affect the north coast are caused by either locally-generated or distant-source earthquake events. After a large earthquake displaces the sea floor near our coast, the first waves may reach the coast within minutes. Tsunamis may also be generated by very large earthquakes in other areas of the Pacific Ocean and may reach our coastline many hours after the earthquake occurred. After the Alaska earthquake of 1964, Crescent City experienced a tsunami that killed 11 people and caused \$8 million in damage.

D. WATER RESOURCES

Watersheds and Streams. Humboldt County is drained by portions of several major watersheds as well as a number of smaller coastal watersheds in their entirety. The Klamath (including the Trinity), Eel (including the Van Duzen), and Mad Rivers exist in part within county boundaries. Redwood Creek, Mattole River, Humboldt Bay and other smaller coastal watersheds exist entirely within county boundaries. There is relatively little storage of runoff in snowpack or reservoirs, so runoff rates typically peak during the winter rainy season and decline throughout the summer and fall. Some streams have little or no flow in the late summer and early fall before the rainy season begins.

River and stream "flooding" during the rainy season is a common occurrence in north coast watersheds. However, what are commonly referred to as floods are often normal "bankfull" streamflows. The north coast has experienced true flood events in the past. The largest and most destructive of which was recorded in 1964, and affected most rivers in the region, most notable the Eel. The Eel River peaked at approximately 752,000 cubic feet per second (cfs) at Scotia (630,000 cfs above bankfull flow).

During the last several winters, peak rainfalls have had significant impact on transportation corridors all over Humboldt County, washing out bridges and sections of county and state roads, and railroad corridors. After the "New Year's Flood" of 1997, highway access into and out of the county was disrupted for several days.

Wetlands. Freshwater wetlands are abundant in Humboldt County. Wetlands in the region include areas with high groundwater levels or with ponded surface water for significant periods, riparian wetlands, agricultural wetlands, springs, seeps and bogs, diked former tidelands, abandoned log ponds, and managed constructed wetlands. Tidal wetlands are common around Humboldt Bay and around river and lagoon estuaries. Wetlands are valuable for their high biological productivity, wetland habitat, capacity for flood control, groundwater recharge, wastewater treatment, their scenic beauty, and recreational and educational opportunities.

Groundwater. The subsurface flow of water affects (and is effected by) land-based transportation corridors. Relative to the fairly wet climate, groundwater flow can be substantial on hillslopes in many parts of the county. The amount of groundwater flow in a given area can be directly related to slope stability (discussed in Section D, Geology, above). Transportation corridors affect groundwater flow by intercepting and concentrating that flow at the surface, reducing the amount of groundwater downslope of the road or railway. Re-directed groundwater flow alters groundwater dynamics, occasionally creating ponds, wetlands, or a new stream channel.

Tidal waters. Tidal waters in Humboldt County include the Humboldt Bay, river estuaries, several lagoons, and associated tidal marshes and mudflats.

Water Quality. The North Coast Regional Water Quality Control Board has prepared and biannually updated a Watershed Planning Chapter of the *Watershed Management Initiative Plan*. For the Humboldt and Eel River Watershed Management Areas in the March 1998 update, a general characterization of known pollution in the region related to transportation issues follows.

- Groundwater quality issues, though not thoroughly documented, are noted to center around petroleum contamination from sources including vehicle and railroad maintenance operations, underground storage facilities, and herbicide application.
- Surface water quality issues stem from discharges of chemical and sedimentary materials—intensified during stormwater runoff events—including sources such as vehicle and railroad maintenance operations, gravel extraction, construction activities, and herbicide application.

Water quality issues on the north coast are inextricably related to fisheries health issues. A discussion of aquatic biological resources follows in Section G.

Existing Transportation-Water Resource Interface

Land-Based Transportation Corridor Interface. In areas of steep terrain, ground transportation routes are generally located in river and stream corridors and near the ocean shoreline. Certain major roads, highways and railways were historically placed in relatively unstable river canyons, and related impacts continue to the present. Factors influencing the vulnerability of the region's water resources to transportation impacts include: intense rainfall, soil erodability, the proximity of transportation corridors to streams, and cumulative effects of logging, urbanization and agriculture. Transportation facilities are vulnerable to flooding, sediment deposition, and erosion. Ship and barge transportation exposes Humboldt Bay and the County shoreline to oil spill risks.

Road and rail corridors affect and are effected by stream channels. Most of these corridors directly connect with stream channels through constructed drainage systems that redirect water flow and can subsequently affect the level of channel erosion and sedimentation (Furniss 1999). Redirected flow can overload stream channels and initiate a process of adjustment that includes bank erosion, downcutting, and related water quality impacts from increased sedimentation. Entities in Humboldt County responsible for interfaces between transportation corridors and stream channels include the County of Humboldt, Caltrans, seven incorporated Cities, the North Coast Railroad Authority, as well as several land management agencies including the U.S. Forest Service, National and State Parks, and Bureau of Land Management. The County of Humboldt and Caltrans are the two entities responsible for the most interface facilities in the scope of this document (Table 3.4).

Table 3.4. Water resource-transportation corridor interface facilities in Humboldt County.

Entity	Culverts	Bridges	Low-Water Crossings
County of Humboldt	3000	162	3
Caltrans	3068	215	n/a

Some land-based transportation-related impacts to water resources that currently occur in Humboldt County are:

- Alteration of drainage patterns and subsequent sedimentation due to encroachment of travel corridors into or across stream channels, including associated road- or rail-crossing failures;
- Sedimentation due to travel corridor fill- or cut-slope failures or placement of excess materials or "spoils" in areas with potential for delivery to streams;
- Concentration of runoff from impermeable surfaces and subsequent erosion; and
- Spills of fuel, hazardous cargo, and vehicles into waterways.

Tidal Waters Transportation Interface. Tidal waters most commonly utilized for transportation in Humboldt County are in the Humboldt Bay. Some transportation-related impacts to tidal water resources that occur in Humboldt County are:

- Alteration of estuarine habitat by harbor dredging; and
- Spills of fuel and hazardous cargo into waterways.

Other coastal areas of the county can also be affected by shipping impacts.

E. AIR RESOURCES

Humboldt County is included in the North Coast Air Basin along with Del Norte, Trinity and Mendocino Counties. These counties operate as a unified special district, or the North Coast Unified Air Quality Management District (NCUAQMD), which manages air resources in this mountainous, predominantly rural region.

The Humboldt Bay Air Basin encompasses the coastal plain from Ferndale to McKinleyville. It has a low potential for forming ozone smog because of good ventilation in summer months with strong westerly winds. Sources of ozone precursor emissions are low enough that ozone smog does not rise to significant levels even when there is no wind. Also, the air basin generally has good vertical mixing in summer months, which helps disperse pollutants before they can build up to harmful levels.

Most major air pollutants in Humboldt County—especially for mobile sources—are well below what the state considers harmful. The entirety of the North Coast Air Basin has been designated as "attainment" or "unclassified" for all criteria pollutants (carbon monoxide, ozone, sulfur oxides, and nitrogen dioxide) and is subject to "Prevention of Significant Deterioration" (PSD) permit procedures. Except for Redwood National Park which is designated Class I, all of Humboldt County is designated as a Class II area.

Air Pollutants.

The EPA and ARB monitor and regulate several air pollutants. The pollutants of greatest concern for the Humboldt Bay airshed are described below. Federal and state ambient air quality standards are shown in Table 3.5.

Table 3.5

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	0.12 ppm (235 µg/m ³) ⁸	Same as Primary Standard	Ethylene Chemiluminescence	
	8 Hour	—		0.08 ppm (157 µg/m ³)			
Respirable Particulate Matter (PM ₁₀)	Annual Geometric Mean	30 µg/m ³	Size Selective Inlet Sampler ARB Method P (8/22/85)	—	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	24 Hour	50 µg/m ³		150 µg/m ³			
	Annual Arithmetic Mean	—		50 µg/m ³			
Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard		65 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean			15 µg/m ³			
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-dispersive Infrared Photometry (NDIR)	
	1 Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—			
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.25 ppm (470 µg/m ³)		—			
Lead	30 days average	1.5 µg/m ³	AIHL Method 54 (12/74) Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³			Same as Primary Standard
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	—	Fluorescence	0.030 ppm (80 µg/m ³)	—	Pararosaniline	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)			
	3 Hour	—		—			0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		—			—
Visibility Reducing Particles	8 Hour (10 am to 6 pm, PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer—visibility of ten miles or more (0.07—30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: ARB Method V (8/18/89).		No Federal Standards			
Sulfates	24 Hour	25 µg/m ³	Turbidimetric Barium Sulfate-AIHL Method 61 (2/76)				
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Cadmium Hydroxide STRactan				

See footnotes on next page...

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Notes for Ambient Air Quality Standards, Table 3.5

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM 10, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. In addition, Section 70200.5 lists vinyl chloride (chloroethene) under "Ambient Air Quality Standards for Hazardous Substances." In 1978, the California Air Resources Board (ARB) adopted the vinyl chloride standard of 0.010 ppm (26 mg/m³) averaged over a 24-hour period and measured by gas chromatography. The standard notes that vinyl chloride is a "known human and animal carcinogen" and that "low-level effects are undefined, but are potentially serious. Level is not a threshold level and does not necessarily protect against harm. Level specified is lowest level at which violation can be reliably detected by the method specified. Ambient concentrations at or above the standard constitute an endangerment to the health of the public." In 1990, the ARB identified vinyl chloride as a Toxic Air Contaminant and determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.

2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8. New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. The federal 1-hour ozone standard continues to apply in areas that violated the standard. Contact U.S. EPA for further clarification and current federal policies.

California Air Resources Board (1/25/99)

Ozone Smog. There are two main pollutants that cause health and welfare problems in California. The first is ozone smog. Smog is formed near the earth's surface when two classes of chemicals, Reactive Organic Gasses (ROG) and Oxides of Nitrogen (NO_x), react in the presence of sunlight to form a third compound, ozone. Ozone is comprised of three oxygen atoms, and is a highly reactive, and sometimes destructive, gas. Substantial research documents that crop yields are reduced when ozone levels exceed 0.06 parts per million (ppm). The damage level is dependent upon the crop, duration of exposure and concentration. Leafy vegetables may be harmed by only a few hundred hours of exposure, while olive trees may be able to withstand much more. Research has shown that plants show greater harm as ozone concentration increases. The duration of exposure is also important in the ability of vegetation to maintain ozone repair mechanisms. The ARB estimates that grape, citrus, and other sensitive crops yields are diminished by about 20% or more in the smoggiest parts of the state. Consequently, ozone smog may cost the state's agriculture industry a billion dollars or more per year.

Smog exposure to humans is also detrimental, and, in fact, the Federal standard was tightened in 1997 to reflect findings in recent health studies. Smog tends to harm children the most, as they are growing and spend more time outside and vigorously breathing. Other sensitive persons are those with asthma, emphysema, or respiratory infections. The State and Federal ozone standards are set low enough to protect this sensitive population.

Through most of the warm summer and fall months, man-made and natural emissions are trapped below the inversion and are bombarded with strong sunlight. Thus, the two things that cause ozone formation, emissions and sunlight, occur and are trapped in warm air, which speeds the chemical reactions that create smog.

PM10. Respirable Particulate Matter that is less than 10 microns or less in diameter (abbreviated as PM10). PM10 consists of tiny solid or liquid particles of soot, dust, smoke, fumes, or mists. The size of the particles (about 0.0004 inches or less) allows them to enter the air sacs deep in the lungs, where they may be deposited, resulting in adverse health effects. PM10 is harmful to human health and is regulated by both State and Federal standards. PM10 can be formed directly, as in dust from driving on a dirt road, or it can be formed by secondary combination of other pollutants such as nitrogen oxides or ammonia. (Ammonia is a primary emission from feedlots and dairies). Major PM10 sources include motor vehicles, wood burning stoves and fireplaces, dust from construction, landfills and agriculture, wildfires and waste/brush burning, industry, and windblown dust from open lands.

PM10 levels tend to be high in summer months because auto traffic is about 20% higher than average, farm activities raise dust, and little rainfall occurs to wash pollutant out of the air. In the winter, radiation and katabatic inversions trap emissions very close to the ground. Emissions from agricultural burning, wood stoves and fireplaces, and motor vehicles are all important sources that contribute to high levels of winter time PM10.

Almost all violations of the state PM10 standard (50 ug/m³) occur in the 6 month period from October through March (cool months). About 8% of all days during the year exceed the standard, therefore about 16% (or one day in 6) violates the standard during the cool months.

Particulate matter is the air pollutant of primary concern in Humboldt County.

F. BIOLOGICAL RESOURCES

A diverse geologic landscape, relatively high precipitation and different coastal and inland subclimates have provided for an abundance and variety of biological life in Humboldt County. Sensitive species in the Humboldt County region are listed in Appendix A.

The coastline is dominated by dune scrub, grass and forest communities. Bayland and floodplain flats near Humboldt Bay are dominated by agricultural grasslands and urban ecosystems. Marine terraces above the coast are dominated by mixed coniferous forests. Upland mountainous regions of the county are dominated by a mix of patchy grassland prairies, oak woodlands and extensive mixed coniferous forests. The many rivers and streams in the county are important ecosystems that are also linked with riparian habitat. Wetlands are abundant and occupy various parts of the landscape, especially in tidal and floodplain flatlands. Tidal waters and mudflats are for the most part found in Humboldt Bay, river estuaries and lagoons.

Biological Habitats

Grassland / Agricultural. Most of the grasslands found in the planning area are in agricultural use. Grasslands also occur in disturbed areas such as vacant lots. Agricultural lands include the coastal plain and river valleys. Many of the coastal plain areas adjacent to Humboldt Bay and the Eel River estuary were once tidally inundated. Large areas of salt marsh surrounding the bay were diked and drained in the late 1800s for agricultural use.

Grasslands include the Introduced perennial grassland series and the California annual grassland series. Non-native grasses and herbs dominate both community types. Emergent shrubs or trees may be present. Grass height varies with land use, and vegetation cover can be continuous or open. Generally, perennial grasses dominate the wet grasslands (which constitute most of the agricultural land in the planning area) and annual grasses dominate the upland grasslands.

Many of the agricultural lands bordering Humboldt Bay are commonly referred to as farmed wetlands. Most flood in the winter and contain year-round meandering sloughs and creek channels. Wildlife use is typically high, but varies with site characteristics and season. Shorebirds use the wet pastures for feeding and resting from late fall to early spring. Waterfowl use occurs mainly during rainy periods when the pastures are flooded. Raptors use farmed wetlands for foraging.

Forest. Most of the forested areas of the coastal portion of the County can be characterized as the Redwood series. Redwood forest is a unique feature of the Pacific north coast. Though once widely distributed, redwood forest is today restricted to a narrow, discontinuous coastal strip from Brookings, Oregon, south to Monterey County, California.

Coast redwood is an important component of coastal forests, but evergreens such as Douglas-fir, Sitka spruce, grand fir and western hemlock are common and deciduous hardwoods are also present. Inland, forested slopes are dominated by mixed evergreen and deciduous forests. The Douglas-fir – tanoak series and the Tanoak series intermix with the Redwood series. Farther inland, pine forests and oak woodlands are also common.

Another forest type occurs in the sand dune system along the coastal strip. The Beach pine series is found on stabilized dunes, inland of the moving dunes. Beach pine forest extends along the North Spit of Humboldt Bay. The North Spit stand represents the southernmost occurrence of the Beach pine series on the Pacific coast. The canopy is moderate, with dense shrub and understory layers. Beach pine is the dominant tree in the canopy and Sitka spruce is common.

Inland portions of the county are for the most part mixed evergreen and deciduous forests. Oak woodlands are also prevalent in some areas.

Creeks / Riparian. Streams and their associated riparian zones provide wildlife habitat, flood control, recreation and scenic enjoyment, and educational opportunities. Riparian woodlands are characterized by a high plant productivity, supporting abundant and diverse wildlife species.

Riparian plant communities include the Arroyo willow series, Hooker willow series, Mixed willow series and Red alder series. There is overlap in the species compositions of these series. They vary in the dominance of canopy species. Arroyo willow most frequently dominates interior creekside zones. Hooker willow prevails in a few stands

nearest the coast. Red alder is the dominant tree in stands bordering the upper reaches of local rivers.

Open water / Mudflat. Humboldt Bay is the second largest estuary in California. It is comprised of two shallow basins and a deepwater section around the mouth. The northernmost basin is Arcata Bay, with Humboldt south bay to the south.

The bay's extensive mudflats are exposed at low tide. Algae growing on the mud give the flats a greenish hue. Numerous channels dissect the mudflats, reflecting the pattern of tidewater drainage. Eelgrass grows in the shallow tidal channels. A high number and a high species diversity of invertebrates live in the mud and as epiphytes on the eelgrass, providing a valuable food source for fish and waterfowl. Black brant eat eelgrass and also animals living on the eelgrass. Shorebirds eat invertebrates in the mud, and herons and egrets hunt for fish in the channels.

Many fish species use the estuary for feeding, breeding and/or as a nursery ground, including the endangered tidewater goby. Mammals using the bay include the harbor seal, river otter, and sea lion. Humboldt Bay provides habitat for numerous resident and migratory waterfowl and shorebirds. A diversity of salt, brackish and freshwater marshes surrounding the bay enhance its value as wildlife habitat. Sensitive bird species that use Humboldt Bay and its associated wetlands include the California brown pelican, American peregrine falcon, osprey, and occasionally the bald eagle.

Wetlands. Salt marsh, brackish marsh, freshwater marsh and dune hollows are distinct wetland types in the region. In addition, there are minor human-influenced wetlands that serve many wetland biological functions, including roadside ditches, log ponds and farm ponds. Salt marshes occur in a narrow fringe around the Humboldt Bay, around estuaries, and in other low-lying coastal areas and coastal lagoons with frequent tidal influence. Humboldt Bay represents the principal salt marsh habitat between Coos Bay, OR and San Francisco Bay. Brackish and freshwater marshes are among the world's most biologically productive ecosystems. The abundance of food attracts many different animals. Stream estuaries and coastal lagoons contain most of the region's brackish marsh. Freshwater marshes...lagoons, Arcata Marsh, ...

Beach/Dune. The system of sand dunes occurring along the north spit of Humboldt Bay to Mad River Beach County Park is recognized as the most complex and least disturbed dune ecosystem on the northwest coast of North America (U.S. Fish and Wildlife Service 1996). Typical communities in the dune ecosystem include the foredune grassland and dune mat, the dune forest and dune hollow. All of these communities contain sensitive habitats and/or species.

Biological Habitat Management

Humboldt County has designated streamside management areas (SMAs) on all perennial and intermittent stream corridors that limit construction and maintenance activities. Allowable uses in SMAs include road construction and maintenance.

Some transportation-related impacts to biological resources that currently occur in Humboldt County are:

- Blockage of fish passage (including salmon migration) by travel corridor crossings;
- Sedimentation of gravel used for salmonid spawning from travel corridor-related sediment contributions listed in Section E, above;
- Clearing of riparian or wetland vegetation adjacent to travel corridors;

- Noise affecting terrestrial and aquatic ecosystems;
- Barriers to seasonal/daily wildlife migration; and
- Pollution of estuarine and riverine habitats.

G. NOISE

Noise is often described as unwanted or disruptive sound. A pure sound is measured in terms of: its magnitude, (often thought of as loudness) as indicated on the decibel (dB) scale; its frequency, (or tonal quality) measured in cycles per second (hertz); and its duration, or length of time over which it occurs. To measure the noise value of a sound or series of sounds, other factors must also be considered.

Sounds are measured in decibels (dB), with the lowest sound humans can typically hear set at 0 dB and the level where severe damage to the eardrum can occur set at 140 dB. Certain types of sound interfere with daily activities and can cause physical discomfort. Noise is known to affect the health and well-being of individuals. Annoyance, disruption, speech interference and loss of concentration are the early effects of high noise levels. Continued exposure to high noise levels can lead to physical and psychological problems (hearing loss, stress, and stress related health effects). The noise level of various activities and human reaction to these levels are shown in Figure 3.1.

The Federal Highway Administration (FHWA) has adopted noise regulations, (Title 23 Code of Federal Regulations Part 772 - Procedures for Abatement of Highway Traffic Noise and Construction Noise), that establish limits for the consideration of noise mitigation for new or expanded highway projects. These limits, known as noise abatement criteria, include 1- hour L_{eq} values that cannot be "approached or exceeded."

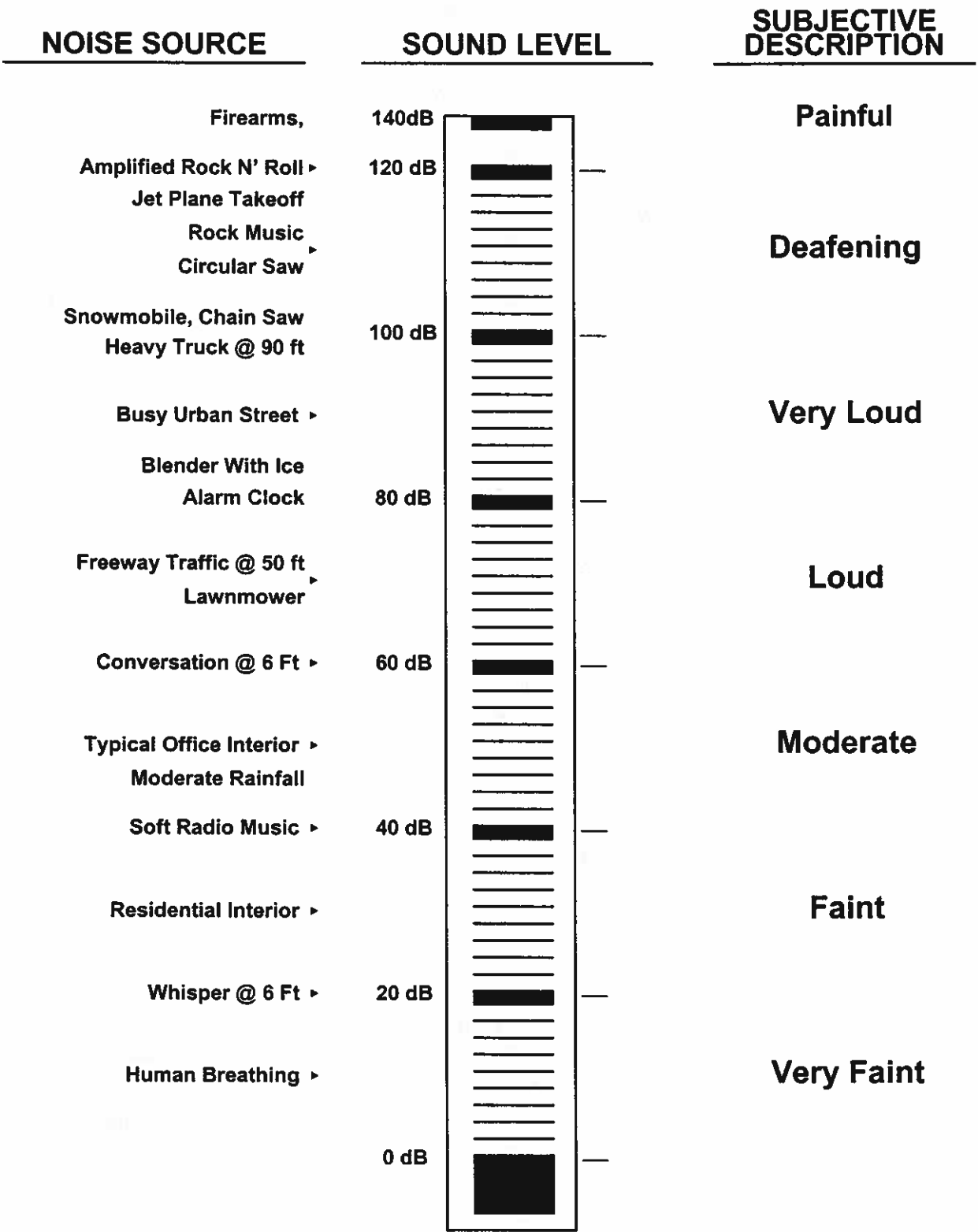
The definition of "approach or exceed" is deferred to each State's Department of Transportation. The most common of these noise abatement criteria is 67 dBA, used for residential communities. In addition to the absolute limit of 67 dBA, the FHWA regulations also have a provision that noise levels generated by a new highway project do not "substantially increase" noise levels to a noise-sensitive area (such as a residential community). The definition of this term is also deferred to each State's Department of Transportation.

The Federal Highway Administration provides Guidelines for Considering Noise in Land Use Planning and Control (an interagency report published in 1980) as a joint effort of the U.S. Department of Transportation, Department of Defense, Environmental Protection Agency, Veterans Administration, and Department of Housing and Urban Development. These guidelines deal with planning for all transportation noise sources.

The L_{eq} measure represents the average of the sound level energy for a 1-hour period and employs an A-weighted decibel correction which corresponds to the optimal frequency response of the human ear. The Community Noise Equivalent Level (CNEL) is a noise measurement based on a 24-hour average and adjusted to account for perception by the human ear. This measurement uses an A-weighted sound level (dBA) giving less weight to lower frequencies and adding 5 dB for evening noise (7 p.m. to 10 p.m.) and adding a 10 dB penalty for noise during nighttime and early morning hours (10 p.m. to 7 a.m.). The penalty for nighttime, evening and early morning hours accounts for increased sensitivity during times of rest and sleep.

The day-night average level (L_{dn}) is an average 24-hour noise level similar to the CNEL. It includes a 10 dB addition for the nighttime hours but not the 5 dB penalty for evening hours.

Figure 3.2 Acoustical Scale



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People are exposed to a multitude of sounds each day. Many of these sounds are generated by day-to-day activities. The noise impact depends on loudness, duration, time of day, impulse character, pure tone content, variability, season of the year, and the community. Noise impacts are relative and variable, but can include sleep loss, disruption of relaxation, and concentration; interference with speech and communication; hearing loss; and other physiological problems.

Noise standards and guidelines to protect individuals from adverse noise impacts have been established by Federal, State and local agencies. The Federal Highway Administration has established design standards for different land uses, as they apply to the planning and design of federally-funded highway projects, as shown in Table 3.6.

Table 3.6. Federal Highway Administration noise abatement criteria.

Category	Land Use	L _{eq} , dBA	L ₁₀ , dBA
A	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need, i.e., parks and open spaces.	57 (Exterior)	60 (Exterior)
B	Residences, motels, hotels, public meeting rooms, schools, libraries, churches, hospitals, picnic and recreation areas, playgrounds, active sports areas, and parks not included in category A.	67 (Exterior)	70 (Exterior)
C	Developed lands, properties or activities not included in categories A or B.	72 (Exterior)	75 (Exterior)
D	Residences, motels, hotels, public meeting rooms, schools, libraries, churches, hospitals, and auditoriums	52 (Interior)	55 (Interior)
Source: Department of Transportation, Federal Highway Administration Highway Noise Control Standards and Procedures, Title 23, Code of Federal Regulations			

Standards to regulate noise levels of motorized vehicles and boats, regulate freeway noise affecting classrooms, control sound transmission, and require noise insulation have been set by the State of California. The state standards for new vehicle noise limits and vehicle operation at various speeds are described in Table 3.7.

Table 3.7. State of California motor vehicle noise limits.

Sales of New Vehicles	Date of Manufacture	DBA Value at 50'
Motorcycles	Before 1970	92
Motorcycles other than motor-driven cycles	After '69, Before '73	88
	After '72, Before '75	86
	After '74, Before '86	83
	After '85	80
Vehicles with gross vehicle weight of 6,000 lbs. or more	After '67, Before '73	88
	After '72, Before '75	86
	After '74, Before '78	83
	After '77	80
Any other motor vehicle	After '67, Before '73	86
	After '72, Before '75	84
	After '74	80
Noise level limits for the operation of off-highway motor vehicles	Before 1973	92
	After '72, Before '75	88
	After '74	86
Vehicle Operation Noise Limits		
Operation of Vehicle	< 35 mph ¹ 36 - 45 ²	> 45 mph ²
Any motor vehicle with a manufacturers gross vehicle weight rating of 6,000 lbs. Or more and any combination of vehicles towed by such a motor vehicle	82 dBA	--
Any motor vehicle with a manufacturers gross vehicle weight rating of 10,000 lbs. Or more and any combination of vehicles towed by such a motor vehicle	86 dBA	90 dBA
Any motorcycles other than motor-driven cycles	77 dBA 82 dBA	86 dBA
Any other motor vehicle and any combination of vehicle towed by such a motor vehicle	74 dBA 76 dBA	82 dBA
¹ On streets with a grade not exceeding + or - 1 % ² On any Street Source: California Motor Vehicle Code, 1992		

Airport Noise

Airport noise is particularly complex to measure because of the widely varying characteristics of the individual sound events and the intermittent nature of these events' occurrence. In an attempt to provide a single measure of airport noise impacts, various cumulative noise level metrics have been devised. The metric most commonly used in California is the Community Noise Equivalent Level (CNEL). The primary function of the contours produced by CNEL calculations is to show areas affected by significant noise levels resulting from high concentrations of aircraft takeoffs and landings. The results of CNEL calculations are normally depicted by a series of contours representing points of equal noise exposure in 5 dB increments.

Noise complaints often originate from areas outside of mapped noise contours. Sometimes this is due to high noise levels of an individual aircraft. Other times it is not triggered by high noise levels, but an individual's subjective feeling of annoyance at the aircraft overflight. While the noise makes the person aware of the overflight, it may be fear of a crash or other factors that generate the feeling of annoyance. This type of concern is commonly called overflight annoyance. It may occur anywhere aircraft fly below 1,500 feet, and is especially common under the standard traffic pattern.

Traffic Noise

Various noises caused by cars, trucks, buses, motorcycles, police cars, emergency vehicles, and other related sources, as well as sounds from horns, engines, tires, sirens, constitute the majority of traffic noise. Traffic on State Highways county roadways and city streets represent the most predominant type of noise in the County.

Vehicles on surface streets also constitute a major source of noise. Regional streets carry large volumes of traffic everyday. Land uses along these highways include residential areas, hospitals, churches, schools and other noise-sensitive uses along with commercial and industrial uses and agricultural land.

Vehicular noise is affected by: daily and peak-hour automobile traffic; the number of trucks and buses; roadway slope gradients; stop and go traffic (signals, stop signs, etc.); average speed of traffic; and the mechanical condition of vehicles.

Noise-Sensitive Uses

Residential uses are sensitive to noise impacts, particularly during the nighttime hours when sleep and rest can be disrupted. Excessive noises at schools and libraries can result in speech interference, loss of concentration, difficulty in listening, and other impacts that impair learning activities. Hospital operations and recovering patients are especially sensitive to noise. Older residents are often more sensitive to noises than others. Noise can disrupt religious services, although they often occur outside of peak hour traffic. Noise reduction measures such as insulation at the source, provision of a barrier, or separation of noise generating uses from sensitive uses are effective in reducing the adverse noise impacts.

Construction Noise

Temporary noise and vibration impacts will occur from demolition, excavation and construction of roadway, bridge and other circulation improvement projects. Construction also generates vehicle trips to transport employees and building materials, and will result in an increase in roadway noise levels. Construction equipment noise levels of are shown in Table 3.8.

Table 3.8. Noise Levels for Construction Equipment

		Noise Levels (dbA) at 50 Feet					
		60	70	80	90	100	110
Equipment Powered by Internal Combustion Engines	Earth Moving	Compactors		□□			
		Front Loaders			□□□□□□□□		
		Backhoes			□□□□□□□□□□		
		Tractors			□□□□□□□□□□□□		
		Scrapers/Graders			□□□□□		
		Pavers			□□□□		
		Trucks				□□□□□□□□	
	Materials Handling	Concrete Mixers		70	80	90	100
		Concrete Pumps			□□□□□□□□		
		Cranes (movable)			□□□		
		Cranes (derrick)				□□	
	Stationary	Pumps		□□			
		Generators			□□□□□□□		
Compressors				□□□□□□□□			
Impact Equipment	Pneumatic Wrenches		70	80	90	100	
	Jack Hammers				□□□		
	Pile Drivers (peaks)					□□□□□□	
Other	Vibrator			□□□□□□□□			
	Saws			□□□□□□□□			

Source: Environmental Protection Agency, NTID 300-1

H. PUBLIC FACILITIES (INCLUDES ENERGY SERVICES)

For the purposes of this EIR, the discussion and analysis of public services in this section is limited to pipelines and energy.

Pipelines

There are two regional pipeline systems of importance in Humboldt County. The natural gas transmission system operated by Pacific Gas and Electric (PG&E) provides energy to PG&E's distribution network that serve many businesses and residences in areas of relatively high population density. The Humboldt Bay Municipal Water District (HBMWD) and the City of Eureka pipe water from the HBMWD intakes at the Mad River east of Arcata, to McKinleyville, Arcata, Eureka, and unincorporated areas surrounding Eureka. The HBMWD maintains a pipeline from the intakes along the Samoa Peninsula to the Louisiana-Pacific pulp mill. The Eureka pipeline, built in the 1930s, runs along Old Arcata Road to Eureka. The Humboldt Community Services District (HCSD) obtains water from Eureka and provides service to the surrounding unincorporated areas.

According to PG&E, their existing gas transmission system adequately meets Humboldt County's slowly increasing demand. The California Energy Commission projects that statewide demand for gas (excluding that used for electricity generation) will increase an average of 1% annually between 1997 and 2007; however, the projection for Humboldt County is only 0.3% annually.

One occasional limit on the natural gas transmission system is PG&E's Humboldt Bay Power Plant, which operates on natural gas. There have been a few occasions in the past when high customer demands for gas caused the Power Plant to reduce its electric generation and gas consumption. Should changes in the electric power market make it desirable for PG&E to increase generation at the Humboldt Bay Power Plant, they may need to upgrade their gas transmission line to meet both the power plant's demand and gas customer demand. Such an upgrade could include replacement of fittings, valves, and gas compressors without uncovering or replacing the actual pipeline. The likelihood of these changes in the PG&E system is unknown because of the uncertainty in the newly restructured electric power market. PG&E's gas system is regulated by the California Public Utilities Commission

There are small towns in the County, most notably Manila, that are currently not served by PG&E's gas distribution system. These are areas where the economic and environmental cost of extending gas service are not justified by the number and size of new customers that would be served. Under California Public Utilities Commission rules, PG&E does not provide service in such situations unless the cost of extending service is subsidized by others. In the case of Manila, residents are currently seeking such subsidies.

Energy

Energy used in Humboldt County comes from natural gas, electricity, petroleum fuels, liquefied and compressed gases (primarily propane), and such renewable and alternative sources as biomass (wood and wood waste) and solar. Significant energy resources in Humboldt County include PG&E's Humboldt Bay Power Plant, which converts natural gas to electricity; the Ultra Power generating station in Blue Lake, which generates electricity from wood waste; a small natural gas field near Tompkins Hill south of Eureka; and several small electricity co-generation plants.

Electric energy is transported into Humboldt County via the regional transmission grid owned by PG&E. This grid is linked to power plants throughout the western United States and it is operated in California by the Independent System Operator, an agency that matches generation to demand under the competitive electric power market. The development and operation of electric transmission and distribution systems are highly regulated by state and federal agencies and are outside the influence of the RTP.

According to the California Energy Commission, statewide electric energy use has risen about 3% annually in the last several years, but is projected to increase an average of 1.8% annually between 1997 and 2007; electricity usage in Humboldt County is projected to increase 1.9% annually through 2007.

Humboldt County's petroleum fuel is imported, primarily by barge from the San Francisco Bay area. Barges are unloaded at the Chevron terminal in Eureka. Petroleum is supplied to the southern part of the county by trucks from Eureka and the San Francisco Bay area.

I. CULTURAL RESOURCES

Paleontological Resources

Paleontological resources are primarily the fossilized remains of pre-historic organisms, which have been preserved in the earth. Regional resources have been preserved primarily in the form of marine organisms and shells preserved in consolidated sedimentary sand layers, and occasionally brought to the surface by regional uplifting, as a result of geologic processes.

Archaeological Resources

From the Athapaskan and Algonquian linguistic groups, the prehistoric inhabitants of Humboldt County were members of the Native American groups known as Chilula, Hupa, Karuk, Lassik, Mattole, Nongatl, Sinkyone, Whilkut, Wailaki, Wintu, Wiyot and Yurok. This diversity can be explained, in part, by the large geographic area of the County and the relatively high population densities that the rich north coast environment could sustain.

These groups lived at a subsistence level, exploiting the local terrestrial and marine resources available to them, living in semi-permanent villages with seasonal travel for hunting and collecting purposes. The rivers and bays of the northwest offered annual runs of salmon and steelhead, corridors of travel and suitable areas to establish villages. The high number of documented village sites and processing camps near the banks of every river and stream in the County illustrates the significance of these freshwater sources to prehistoric populations. The Wiyot, Yurok, Karok, Mattole, and Sinkyone relied on fish as a primary dietary resource—more so than on game and acorns, which was typical of other California cultures. The remaining groups had a broader diet of acorns, buckeye, various plants, tubers, seeds, abundant large and small game, and waterfowl along with freshwater and saltwater fish and mollusks.

The communities were small but numerous, with many groups living in rectangular redwood houses made from planks. Camp site structures for seasonal hunting, collecting, and social gatherings required temporary structures with associated features from processing activities. Some natives utilized dugout canoes for river and bay travel and baskets for cooking, food processing and as hats. Hunting objects included obsidian projectile points, bows, arrows, stone arrow straighteners, fish hooks, stone net weights, and snares and nets made from fibers.

There are many recorded prehistoric archaeological sites within Humboldt County—within Arcata alone 32 sites are known. Due to the reliance on rivers, bays, streams and creeks for all of these groups, sites of archaeological significance will continue to be found in these areas. Upslope watershed zones would also be areas in which cultural remains from seasonal encampments could be disturbed.

Historical Resources

Humboldt County communities and rural areas contain a wealth of historical resources beginning in the second half of the 19th century. While the coastal regions of Humboldt County were discovered in by several different European explorers in the period from 1542 to 1775, settlers did not arrive until the 1850's. Most of the early settlement patterns were based on resource extraction activities with towns developing quickly providing services to the workforce and support for the extracted product. Humboldt's early arrivals were looking for speedier routes for supply lines to the mining fields in the east.

Ferndale was established by Europeans coming into the region with the excitement of the Gold Rush but the failure to strike it rich. Dairy farming became the prominent activity here with eleven separate cooperative creameries by 1890. Ferndale became an important transportation center and the largest city during the last half of the 19th century. Salt River was a port for sea worthy vessels and stage coach lines traveled to the rich farmlands and dairy country of the Bear and Mattole River regions to the south, as well as, Eureka to the north. Centerville Beach, four miles west of Ferndale, was another access point to ships anchored off shore, making regular runs to San Francisco with cargo, passengers and mail. Stagelines heading north had to cross the Eel river by ferry until Fernbridge was constructed. The world's longest concrete arch span in 1911, Fernbridge is one of only two still in use in the world. Shipping activities were eventually abandoned due to the gradual silting of the Salt River and the development of Humboldt Bay and its calmer waters.

With this transition, Humboldt Bay became the shipping center with Eureka and Uniontown (later named Arcata) on its shores. Uniontown became the supply center to the mines of Trinity County with a wharf extending to the deeper waters of Humboldt Bay and a railroad track linking the wharf to the town's Plaza. The Plaza was surrounded by mule corrals as pack mules were the means of transporting supplies to and from the rugged interior mining camps.

By 1856, when Eureka was granted its charter, the city had seven sawmills harvesting the surrounding hillsides, supplying lumber to San Francisco by ship. The Humboldt Bay area was accessible to the outside world in sailing ships or steamers, with far less travel by overland routes to San Francisco.

Logging soon became the principle livelihood of many Humboldt County inhabitants. The Pacific Lumber Company was established in 1869 along with the company town of Scotia. The town of Wildwood (later named Rio Dell), across the river from Scotia, was established around the same period. Arcata joined the logging boom once the Gold Rush began to bust, supplying lumber camps with goods and a shipping port for timber.

Transportation during this early period was based primarily on ocean shipping between San Francisco and Centerville, Salt River and, later, Humboldt Bay. The north-south overland routes by stage and west-east mule trains were slow due to the terrain and wet climate. With the rise of timber extraction based economies, lumber railroads were established as early as the 1870's. These railroads had no connection with the outside world, and were used primarily to haul timber from the woods to mills. One such railroad, the A & M Railroad Company, hauled timber from Korbel to Arcata. In 1907, the Northwestern Pacific Railroad Company began construction of the 106 mile Eel River extension to connect the lines south of Willits with the Eureka area lumber railroads. Passengers could travel from San Francisco to Eureka twice a day when the line was completed in 1914. The passenger service on this line dwindled as motor vehicles became prominent and Highway 101 was constructed, service ended in 1971.

Humboldt County has a wide range of designated historically significant features on various registries. The cities of Eureka, Trinidad and Ferndale as well as the Humboldt Harbor Historical District have been placed on the California State Historic Registry. There are forty-six recorded sites within the county on the National Register of Historic Places. Two local bridges are also on this register; Fernbridge over the Eel River, and the Lower Blackburn Grade Bridge northwest of Bridgeville. In the northern portion of the county, Redwood National Park has been designated a World Heritage Site. In addition, the Library of Congress has documented thirteen structures or buildings and five bridges located in Humboldt County on the Historic American Building Survey/Historic American Engineering Record.

The following is a list of potential historic sites that may be discovered or disturbed during transportation projects:

- Homesteads and associated outbuildings (barns) and features (fencing);
- Unrecorded garbage or privy sites;
- Railroad routes and associated features;
- Pilings of historic docks and other harbor features within Humboldt Bay;
- Levees;
- Harvested redwood stumps with significant features;
- Timber processing sites and lumber camps;
- Early roadways; and
- Bridge sites.

J. AESTHETICS

Humboldt County is known for its many natural, cultural, biological and community resources. Many of the natural resources are visible from county roadways, highways, and other access points. The region's natural resources include river canyons and estuaries, coastal bluffs and sea stacks, dunes and beaches, hills and mountains, and Humboldt Bay. Many of these features are visible from transportation corridors. Similarly, redwood forests and the largest remaining Roosevelt Elk herd in California are examples of aesthetic biological resources visible to those traveling through the region. Many of the area's more urban features contribute to the aesthetic setting. Historic structures, Victorian and other architectural examples, bridges, and murals are also evident to the traveler.

Many of these aesthetic resources are discussed elsewhere in the Cultural and Biological Resources sections of this EIR. The resources and features are included here for their aesthetics, separate from their functional or resource values. Additionally, aesthetics is by nature a subjective value. Other resources can be measured or estimated through quantifiable scientific inquiry; this is rarely possible for the aesthetic, which is analyzed qualitatively.

Changes in roadway width, alignment and elevation can impact the visual features of an area, directly affecting the ratio of surfaced area to natural area. In addition, roadways attract secondary development that can also affect aesthetics. As an area becomes accessible via roads, buildings—whether residential, commercial, or industrial—generally follow. The aesthetic character of an area can also be greatly impacted by parking facilities, streetlights and signage, particularly off-site signage and billboards.

Within the region, many roadways offer open vistas of the surrounding area. Roadway corridors in the county have been recognized for their aesthetic values by national and local organizations. The U.S. Forest Service has designated Highway 299 the "Trinity Scenic Byway," in recognition of views and recreational opportunities available as along the Trinity River. On a local level, the City of Arcata has seven designated scenic corridors listed in its General Plan.

Five additional roadways within the Humboldt County are eligible to become California Scenic Routes. Although none have been officially designated California Scenic Routes to date, the eligible roadways are:

- Route 254, known as the Avenue of the Giants;
- Route 299, from Highway 101 east to Willow Creek;
- Route 101;
- Route 96, and;
- Route 36.

In addition, Highway 101 is also eligible for National Scenic Highway designation. Caltrans, in conjunction with the states of Washington and Oregon, recently completed an assessment of the Highway 101 corridor from Eureka, California, to Olympia, Washington. This assessment was conducted to consider National Scenic Highway designation for State Route 101, and included creation of the US 101 Tri-State Pacific Coast Scenic Byway Corridor Management Plan.

A US 101 Tri-State Pacific Coast Scenic Byway Corridor Management Plan was created that provides guidelines for the management of the corridor between the north limit of the City of Eureka and the California border and is scheduled to be updated approximately every five years. Also included in the Plan is a listing of more than 20 scenic resources and vistas along the Highway 101 Corridor in Humboldt County.

Due to concerns over the impacts that Federal designation might have on outdoor advertising, timber harvest practices, and private property rights, a change was requested in the federal scenic byway policy to allow for the corridor to be designated, while also allowing de-designation by the applicant (Caltrans) or local jurisdictions.

K. POPULATION AND HOUSING

Population and housing growth in Humboldt County has been consistently below state and national trends. Population growth, from 1990 to 1997, is shown in Table 3.9.

Table 3.9. Population growth rates for Humboldt County.

Area of County	1990	1997
Eureka	27,025	27,600
Arcata	15,197	16,400
Fortuna	8,788	9,975
McKinleyville	10,968	12,333
Rio Dell	3,012	2,920
Trinidad, Ferndale & Blue Lake	2,928	2,850
Unincorporated Areas	51,200	54,522
Total	119,118	126,600

Source: 1990 Census Data and "California Statistical Abstract," & California Department of Finance, compiled by Phyllis Lammers, North Coast Almanacs.

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Humboldt County housing growth has not been increasing at near the rate experienced by more populated areas of California. The rate of new residential construction in the 1990's has been declining, compared to levels in the 1980's. The number of new housing units permitted from 1980 to 1996, is shown in Table 3.10.

Table 3.10. Residential building permits, from 1980 - 1996, for even-numbered years.

1980	1982	1984	1986	1988	1990	1992	1994	1996
377	349	438	597	657	875	624	524	396

CHAPTER 4 ENVIRONMENTAL IMPACTS

Introduction

This Chapter analyzes the potential environmental impacts of implementing the 1998-2000 Regional Transportation Plan. The environmental issues that are addressed in this Chapter are:

- Land Use,
- Circulation,
- Geology,
- Water Resources,
- Air Resources,
- Biological Resources,
- Noise,
- Public Services,
- Cultural Resources,
- Aesthetics, and
- Population and Housing.

The environmental setting for each of these issues is contained in the previous chapter. In this chapter, there is a threshold for determining potentially significant impacts, an analysis of potential impacts, and if necessary, mitigation measures for each issue. The mitigation measures are designed to reduce potential impacts to a less-than-significant level. Impacts that cannot be reduced to a less-than-significant level are noted.

The RTP addresses the transportation needs of Humboldt County and plans improvements that will relieve congestion and reduce pollution due to vehicle use. These planned improvements were analyzed for their potential environmental effects in the previous chapter of the draft Program EIR.

Environmental thresholds have been adapted from Appendix G of the Revised CEQA guidelines. These thresholds are used to determine whether an impact is potentially significant, or less than significant. Where accepted environmental thresholds for the region are available, they have been used. For example, The North Coast Unified Air Quality Management District (NCUAQMD) has set standards for acceptable levels of pollutants in the air basin. Those standards have been used in this EIR for determining thresholds of significance.

A. ENVIRONMENTAL THRESHOLDS, IMPACT ANALYSIS AND MITIGATION MEASURES

1. Land Use

Environmental Threshold

The RTP would have a significant land use impact if its implementation would conflict with adopted land use plans in the region, or if it includes planned improvements that would displace established communities.

Impact Analysis

The RTP plans improvements for the mobility of goods and people, consistent with planned growth in the region. These improvements are based on projected land uses in adopted land use plans, including city and county general plans. Residential, commercial and other developed land uses would not be displaced by transportation facilities programmed in the RTP. The potential land use impacts are therefore considered less-than significant.

A land use trend that will impact transportation systems is growth in communities such as McKinleyville and Fortuna. Residential growth in these areas will increase the number of work trips to employment centers in Eureka and Arcata. The recent updates of the Eureka and Draft Arcata General Plans, as well as Humboldt County's update of the McKinleyville Community Plan currently in process, project future traffic volumes based on local and regional growth. These plans include policies and planned transportation improvements to maintain appropriate levels of service in and out of these communities.

The 1998-00 RTP proposes improvements on regional routes to improve circulation and promotes alternative modes of transportation. Several of the planned improvements will require acquisition of right-of-way, although most of the land to be acquired is vacant and would not involve displacement of residential, commercial or other developed land uses.

Expansion of fixed route transit services and improvements to bicycle and pedestrian facilities are expected to be accommodated within existing rights-of-way, and not result in significant conversion of land use. The resumption of rail service can be accommodated within existing right-of-way and planned navigational improvements follow existing channels in Humboldt Bay.

Planned transportation improvement projects are designed to relieve congestion, improve safety and close gaps in the existing transportation system. They do not significantly expand capacity and are not expected to be a factor contributing to growth in the county. Infrastructure projects are generally not subject to land use standards and as such would not be inconsistent with land use plans.

Residential growth in communities such as McKinleyville and Fortuna will increase the number of commute trips to major employment and commercial areas in Eureka and Arcata. Because current travel trends indicate that 3 out of 4 trips are taken by auto, there is the potential for transportation and circulation impacts without planned improvements in place. Both the RTP, and the general plans for Eureka, Arcata and McKinleyville include mitigation measures to maintain appropriate levels of service in these communities.

In addition, better connections between land use development and transportation systems allow for alternative mode choices to help reduce auto travel. The development of intermodal facilities such as the proposed Eureka Intermodal Center for the HTA provides convenience and efficiency for people who choose to use transit. Improved connectivity of the street system also allows pedestrians and bicyclists better access to places while facilitating better traffic flows on the regional system because shorter trips can be made on alternative local routes instead of the major state routes. Encouraging mixed-use development projects combining residential and employment uses with commercial and entertainment uses reduces the need to drive for everyday purposes and encourages walking and bicycling for short trips. Encouraging this type of

development within walking distance of transit stops and intermodal centers further decreases the reliance on automobiles.

Linking land use with the transportation system improves both accessibility and mobility for the citizens of Humboldt County leading to beneficial impacts to the entire transportation system.

Potentially Significant Impacts

The RTP does not include any planned regional transportation improvements that would displace established communities in the county, and is consistent with adopted land use plans, as noted in the above analysis. Therefore land use impacts are considered less-than-significant.

Mitigation Measures

No significant land use impacts are expected to occur as a result of implementing the 1998-00 RTP, however the following mitigation measures will help ensure land use compatibility.

1. The RTP policy for land use and transportation coordination shall be followed to cooperatively plan land use and transportation improvements, and ensure that transportation facilities are consistent with the timing and policies of adopted land use plans.
2. The RTP policy for land use impact analysis shall be followed including analysis of potential transportation facilities that will identify significant operational or economic consequences.
3. The RTP policy for intermodal implications shall be followed to consider implications of land-use decisions on the region's intermodal transportation systems.

Level of Significance After Mitigation

Implementation of these measures will insure consistency with adopted land use plans.

2. Circulation

Environmental Threshold

The RTP would have a significant circulation impact if it caused a substantial increase in traffic beyond the capacity of the regional roadway system.

Impact Analysis

Traffic and Congestion Impacts. The average daily traffic volumes (ADT) forecast for state routes in 2020 are projected to increase by approximately 1.4 percent per year over existing volumes on most roads except for a small portion of SR 96 and SR 271. This increase extends to truck traffic as well. This trend is important because US 101 and SR 299 will continue to be the main travel corridors for north-south and east-west traffic for both auto and trucks.

Table 4.1 summarizes the year 2020 Level of Service (LOS) for Humboldt County roadways and compares projected LOS to existing conditions and "concept levels of service" established as the minimum acceptable operating conditions.

Table 4.1. Summary of existing and projected roadway LOS.

Roadway Segment	Average Daily Level of Service		
	Existing	2020	"Concept" LOS
SR 36 – Jct. US 101 to Yager Creek	C	D	D
SR 36 – Little Larabee Creek to Bridgeville	C	D	D
SR 36 – Bridgeville to Trinity County Line	C	C	D
SR 96 – SR 299/Willow Creek to County Line	C	C	D
US 101 – Mendocino Co. Line to Bridge 4-212	D	E	B
US 101 – Jct. SR 211 to Herrick Avenue	B	C	D
US 101 – Herrick Avenue to Henderson Street	B	C	D
US 101 – Henderson Street to 5 th Street	B	C	D
US 101 – 5 th Street to Myrtle Avenue	C	D	D
US 101 – Trinidad to Patrick's Point	A	A	B
US 101 – Patrick's Point to Del Norte Co. Line	E	E	B
SR 299 – N. Fork Mad River Br. To Redwood Creek	D	D	D
SR 299 – Redwood Creek to Titlow Hill Road	D	D	D
SR 299 – Titlow Hill Road to Berry's Summit	D	D	D
SR 299 – Berry's Summit to County Line	D	D	D

ADD →

The roadway level of service analysis indicates that operating conditions will degrade on segments of US 101 from the Mendocino Co. Line to Eel River Bridge # 4-212, south of Benbow, and north of Big Lagoon. These are two-lane portions of US 101 that experience reduced travel speeds due to rolling or mountainous terrain, winding alignments and relative heavy truck traffic (14 percent). These segments of US 101 degrade below their concept LOS B to a LOS E.

Segments of US 101 within the City of Eureka will also experience a degradation in service level. Although the analysis in the Regional Transportation Plan indicates that US 101 operates within the concept LOS through the City of Eureka, detailed traffic analyses from other planning and engineering documents indicate that 4th and 5th Streets as well as Henderson and Myrtle Avenue will become more congested in the future, degrading below a LOS D.

All other state routes in Humboldt County are shown to operate within the concept LOS over the next twenty years. Average Daily Traffic estimates for regional roadways for the year 2020 are shown in Figure 4.1.

Table 4.2 identifies the County's candidate long-range highway projects (through year 2018) designed to improve existing and projected deficiencies. These projects are included as STIP projects in the 1998 to 2000 Regional Transportation Plan, and may be implemented if additional funding becomes available. In addition to these projects, there are a substantial number of rehabilitation and overlay projects on local streets proposed throughout the County. These projects will be included in future RTP's if additional funding becomes available for rehabilitation projects.

Table 4.2. Humboldt County Long Range Capital Improvement Program (2005-2018) STIP highway and local streets and roads.

Project
<ul style="list-style-type: none"> • Construct second phase of interchange and frontage road at SR 36 junction.
<ul style="list-style-type: none"> • Eureka/Arcata 101 Corridor Improvement Project.
<ul style="list-style-type: none"> • Widen 4th and 5th Streets in Eureka for addition of left turn lanes onto V Street Add travel lanes and increase shoulder width on V Street and optimize traffic signals.
<ul style="list-style-type: none"> • Construct 4-lane expressway at Big Lagoon on new alignment to bypass eroding bluffs.
<ul style="list-style-type: none"> • Construct passing lanes east of Willow Creek near county line.
<ul style="list-style-type: none"> • Construct passing lanes on US 101 from Mendocino Co. line to Eel River Bridge.
<ul style="list-style-type: none"> • Construct bypass on US 101 at Richardson's Grove State Park.

Planned transportation improvements may be a factor contributing to growth in certain areas of the county, such as McKinleyville and Fortuna. These areas are experiencing residential growth which leads to more work trips to employment centers in Arcata and Eureka. However, the recent updates of the Eureka and Draft Arcata General Plans and the pending McKinleyville Community Plan include policies and planned transportation improvements to maintain appropriate levels of service in these communities. Therefore, the projected growth is not expected to significantly impact these communities.

Projected increases in truck and auto traffic will exceed the level of service of specific segments of regionally significant roadways in Humboldt County resulting in a potentially significantly impact.

Benefits to the regional circulation system after implementation of the RTP improvements include improved level of service and safety on State routes and well as improved circulation within cities. If all of the projects listed in the above table are implemented, all of the regional roadway facilities in Humboldt County will operate at acceptable levels at Year 2020 conditions based on ADT and concept LOS thresholds.

Transit

Transit capital improvements identified in the RTP may increase transit ridership potentially reducing auto traffic and vehicle miles of travel.

Currently, the three major transit providers in the County, ETS, A&MRTS, and RTS average approximately 65,000 transit trips per year (180 trips per day). Increases in transit ridership are directly related to increased land use density, growth in population, and increased transit service (frequency and service hours). The 1998-00 Humboldt County RTP includes \$1,925,000 in programmed STIP funds for vehicle and bus replacement including a 3,000 square foot bus barn for A&MRTS. In addition, \$1,939,000 in federal funds is proposed to purchase two lift-equipped vehicles for HTA and ETS, and expansion of the existing transit maintenance facility at HTA.

These planned improvements, although very important to the continued effective operation of Humboldt County's current and future transit operations, are expected to only marginally increase transit ridership. The modest population growth for the County (1 percent per year) and historic transit ridership levels (approximately 1 percent of all vehicle trips) will not provide a large enough transit base to significantly reduce auto trips to a noticeable level. However, increases in rural transit, as funding allows, will help meet the needs of the transit dependent while complementing existing fixed route

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service in outlying areas. Should future funding be found to provide transit service between Humboldt and Shasta counties via SR 299, this service could reduce auto travel. However, it is expected that this service would only marginally reduce auto travel and would have no impact on truck travel on SR 299.

In general, any capital and operating improvements to the transit systems in the County are considered beneficial impacts.

Bicycle and Pedestrian Impacts.

There are ongoing efforts to increase bicycle ridership and pedestrian travel, as alternative forms of transportation, at both the local and regional levels. The Humboldt County Bicycle Facilities Planning Project is an example of a regional effort to improve and expand bicycle facilities within and between communities in the central coast of Humboldt County. This project emphasized development of a bikeway facility between Arcata and Eureka, to promote an increase for routine daily transportation. Local bicycle, trail, and community groups also work to promote increased bicycle and pedestrian travel. This local and regional interest in bicycling and walking as alternative modes of transportation is expected to increase in the future.

Improvement and development of more bicycle and pedestrian facilities in the County will result in reductions of auto use, corresponding improvements in air quality, improved opportunity for these modes, and increased outdoor recreational opportunities. With increasing numbers of bicycles and pedestrians, there will be a corresponding increase in the level of interaction between motorists and non-motorized travelers and a greater need for motorist and nonmotorist education regarding the rights and responsibilities of sharing the road. Depending upon the types of facilities developed, increased interactions with vehicles may negatively impact the safety of non-motorized travelers.

In general, any capital improvements to bicycle and pedestrian facilities in the County are considered beneficial impacts.

Goods Movement

Truck Impacts. There are very few areas within Humboldt County that operate below established Levels of service due to truck operations. The exception is US 101, where it passes through Eureka's retail and commercial area. This portion of the highway must accommodate through travel while also serving as access to local stores and businesses. Traffic analyses has shown that large trucks in downtown Eureka can potentially impact capacity and safety.

Although the trucking industry supports the use of longer trailers (50-53 feet) on US 101, SR 36 and SR 299, HCAOG and Caltrans supports restricting trailer length on these roadways to a maximum 40-foot king pin to rear axle tractor semi-trailer combinations. In response to these necessary restrictions and the high cost to improve these routes to accommodate larger truck and trailer combinations, development of a transload facility in northern Mendocino County is being explored. A transload facility would allow the transfer of freight from larger trucks to vehicles that are not restricted in Humboldt County. In addition, the transload facility could be served by rail should rail service be resumed into Humboldt County. It is anticipated that a transload facility will allow for back-hauling of freight as well as some congestion relief on marginal truck routes.

Rail Service. Resumption of rail service to Humboldt County will result in increased rail traffic in urbanized areas and decreased truck traffic on County roadways.

Rail service is expected to resume between Mendocino and Humboldt Counties in 1999. The resumption of rail service will increase rail traffic at existing at-grade railroad crossings where the public has not experienced rail traffic in some time. This will increase concerns for safety and potential conflicts between automobiles, pedestrians and bicyclists. In addition, increases in train crossings in urbanized areas may negatively impact traffic operations as wait times and delay is increased. Potential safety issues can be addressed through a thorough safety audit and inspection of all railroad crossings, a public awareness campaign to inform the public of resumption of rail service, and potentially restricting rail movement in urbanized areas to nights only.

Resumption of rail service has the potential to reduce truck traffic volume, particularly on restricted parts of US 101 that cannot accommodate larger trucks. In addition, the development and implementation of a transload terminal in Mendocino County that is served by rail will help reduce the number and extent of truck trips. These outcomes, along with reduced freight costs, would contribute to positive impacts from the rail service in Humboldt County.

Marine Transport. The dredging of Humboldt Bay shipping channels and other planned navigational improvements have been analyzed in previous environmental documents. The Final Environmental Impact Statement / Environmental Impact Report for the Humboldt Harbor and Bay Deepening and Navigation Project, prepared by the U.S. Army Corps of Engineers and the Humboldt Bay Harbor, Recreation and Conservation District in 1995, determined that all potential impacts were less-than-significant. The marine transport provisions of the RTP are consistent with those addressed in the 1995 EIS/EIR.

Recreational Travel Impacts.

Implementation of the transportation projects identified in the RTP will result in an increase in the recreational travel within the region as well as a corresponding increase in the facilities and infrastructure. However, a significant portion of the improvements target keeping existing visitors in the area longer, attracting additional non-motorized travelers, and establishing excursion rail service, and increasing bus and cruise ship package-tour groups. An increase in recreational travel by these users will have a relatively small impact upon circulation while having a disproportionately higher economic benefit.

Comprehensive and coordinated planning efforts between private business, economic development and transportation interests will facilitate development of appropriate improvements and minimize potential negative impacts upon circulation. In general, improvements recommended in the Regional Transportation Plan for recreational travel infrastructure and facilities within the County are considered to be beneficial.

Construction Impacts.

Implementation of the transportation projects identified in the RTP will result in construction-related impacts.

Several of the candidate projects in the RTP will require acquisition of right-of-way, although most of the land to be acquired is vacant and would not involve displacement of residential, commercial or other developed land uses. There will be temporary construction-related impacts once the planned projects are implemented. These impacts can be mitigated with the development of a construction traffic management plan in accordance with Caltrans standards.

Transportation System Management and Transportation Demand Management Impacts.

Implementation of Transportation Systems Management and Transportation Demand Management measures will improve traffic flow in congested areas, reduce automobile trips and vehicle miles of travel resulting in improved traffic flow in congested areas and reduced pollutant emissions.

The RTP discusses potential Transportation System Management (TSM) and Transportation Demand Management (TDM) measures that can be implemented to help improve traffic flows and reduce reliance on the auto. Although TSM measures are not funded in the 1998 to 2000 RTP, the RTP's policies support implementation of these measures. TSM and TDM measures provide a benefit to achieving County transportation and livability goals.

The TSM and TDM measures focus on better traffic flow through signalization and other high technology monitoring techniques, reduced auto travel through employer based trip reduction programs, safety, and air quality improvements from transportation control measures such as ridesharing and compressed work weeks. Future funding and implementation of such programs will contribute to improving congestion and traffic flows and reducing reliance on single auto travel.

Potentially Significant Impacts

Regional transportation improvements specified in the RTP would reduce potential circulation impacts.

Mitigation Measures

As noted in the analysis of environmental effects, the following mitigation measures, which have been incorporated into the RTP as planned projects or other circulation system improvements, will reduce potential circulation impacts to a less-than-significant level:

1. Planned improvements on US 101, as programmed in the RTP;
2. Rehabilitation and overlay projects on local roads and streets throughout the County, as programmed in the RTP;
3. Re-establishment of interregional public transit services on 299, and rural transit services to north, east and south county communities; and,
4. Development and promotion of education programs for bicycle safety and for motorist awareness of bicyclists and pedestrians.

Level of Significance After Mitigation

Implementation of these measures will insure the reduction of circulation impacts to a less-than-significant level.

3. Geology

Environmental Threshold

The RTP would have a significant impact if planned regional transportation projects resulted in significant degradation of geologic resources (soil, hillslope), or are placed in areas of known instability.

Impact Analysis

A potentially significant geologic impact is one where planned regional transportation projects could result in degradation of geologic resources (soil, hillslope), or be placed in areas of known instability.

Slope Instability. Steep slopes and unstable geologic material found in much of the county are susceptible to movement and erosion, especially where affected by cut- or fill-slopes that are part of roadway construction. These hillslope movements can impact transportation corridors. Roadway or highway capacity enhancement projects (such as proposed Big Lagoon and Richardson's Grove Bypass projects) have the potential to impact slope stability, especially if the amount of cut and fill is increased, the slope of cut or fill is increased, or projects cross unstable slopes. Circulation impacts such as slope failures can cause lane or road closures. Slope failures can deposit sediment in streams and wetlands. Repair of such failure can facilitate a continued need to excavate material and store it elsewhere.

Reconstruction and maintenance of existing railroad, road and highway alignments has long-term potential to decrease rates of slope failure, erosion and sedimentation. While construction of repair projects are likely to have some of the impacts discussed above, a comprehensive repair program has the potential to reduce the frequency and impacts of slope failures, hydrologic alterations (Section 4, below), and associated biological impacts (Section 7, below).

Erosion During and After Construction. Erosion (soil and material loss) can occur both during construction activities and well after these activities due to substandard short- and long-term erosion control techniques. During construction, the season, type of material, slope steepness, and type of erosion control technique can influence the erosion hazard. After construction, the effectiveness of long-term erosion control techniques can have the most effect on erosion hazard.

Seismicity and Liquefaction. Faults and liquefaction zones are found throughout the area and are factors to be considered in future development. Facilities located too close to a fault or in a liquefaction zone can be damaged during a seismic event. These events can affect transportation services and utilities, damage bridges and roadways, and affect the short- and potentially long-term access to regional transportation facilities.

Tsunami. In addition to potential groundshaking, surface ruptures and liquefaction from a seismic event, there is also potential impact from a tsunami or seiche on the coast. Portions of the planning area potentially affected by a tsunami or seiche would be inundated with one or more fast-moving waves, impacting coastal transportation services, public utilities, and transportation facilities.

Potentially Significant Impacts

Placement of roadways in areas of slope instability, liquefaction zones, or too close to known fault zones would cause potentially significant impacts.

Mitigation Measures

The following mitigation measures are proposed to reduce potential impacts to geologic resources:

1. Reconstruction and maintenance programs for existing railroad, road and highway alignments developing a long-term potential to decrease rates of slope failures, erosion and sedimentation.

2. The potential for future slope failures and repairs can be reduced by incorporating stable slope angles and height into the project design, or use retaining structures. However, such stable designs generally include more extensive cuts and fills during construction, which have associated habitat impacts, and large retaining structures can be costly.
3. Application of best management practices for erosion control techniques and best management practices to retain soil on-site both during and after construction.

Level of Significance After Mitigation

The measures listed above will restrict placement or strengthen transportation structures in areas with known faults and liquefaction potential, and minimize slope movement and erosion potential, and reduce impacts to a less-than-significant level. Potential seismic events, however, are determined by underlying geologic forces, resulting in potential damage due to a major seismic event in the region.

4. Water Resources

Environmental Threshold

The RTP would have a significant impact on water resources if implementation of its projects and policies caused a substantial increase in the rate and amount of surface runoff exceeding the capacity of stormwater systems, substantially increased flooding, or exceeded state and federal water quality standards established for the region or specified watersheds therein.

Impact Analysis

A potentially significant water resources impact is one that substantially affects surface or groundwater quality, either by increased sediment or chemical pollution, or one caused by storm events.

Land-based transportation corridor projects have the potential to affect surface and ground water resources in the area. These impacts include an increase in impervious surface which can lead to reductions in natural water percolation and increases in stormwater runoff; changes in water quality from sediment or contaminants; and potential alterations to the course or flow of flood waters.

Increased Groundwater Capture and Surface Water Runoff. Road, highway and railway corridor drainage systems commonly intercept and channel groundwater as well as water collected on travel corridor surfaces. The alteration of a hillslope and decreased permeability of surfaces increases surface water runoff. The corresponding increases in water volume and velocity increase erosiveness of that runoff. Reconstruction and upgrade projects can continue to exacerbate these problems if appropriate design and expertise is not incorporated.

Erosion (Debris Torrents and Gullyng). High streamflows can affect road and rail corridor stability, especially stream crossings. When stream crossings fail, a large amount of sediment is introduced into the stream system. Often, in steep terrain, stream crossing failure can trigger debris torrents that negatively impact stream channel morphology.

Sedimentation. Road, highway or railway construction, reconstruction and maintenance activities can have the potential to release sediment into streams unless erosion is adequately controlled. These activities carried out on steep slopes have an

increased potential for not only soil erosion but also for aggravation of slope instability—both processes can contribute significant amounts of sediment into streamcourses.

Spoils and Material Storage. Materials used for or left over from construction or reconstruction projects are often stored in areas that can drain to streams. Storage and disposal of road surfacing materials or spoils are noted by the North Coast Regional Water Quality Control Board (1998) and the U.C. Cooperative Extension (1998) as mitigable sediment contributions to streamcourses.

Filling of Waters and Subsequent Drainage Alteration. For most of their length, US 101 and the North Coast Railroad Authority rail line follow rivers, the Humboldt Bay, lagoons, and the wetlands adjacent to these water bodies. Capacity enhancement projects could require filling of these wetlands (e.g. Eureka-Arcata 101 Corridor Improvement Project). Construction on steep, and especially unstable, slopes (e.g., Big Lagoon Bypass Project) requires large amounts of excavation and fill of material. Importation of material for road fills and the removal of road cuts and storage of material elsewhere. In addition to the direct loss of habitat, patterns of surface and subsurface runoff could be altered, with secondary impacts to wetlands and streams upstream or downstream of the highway.

Much of the fill material in the region can be erosive and sediment-producing if projects are not carefully designed and maintained. The US 101 bypass through Redwood National Park provides an unfortunate example of severe erosion and slope failure problems that continue to occur even though standard highway design practices were followed.

Construction Impacts. Highway or railroad construction causes temporary impacts to nearby water resources. Ground- and wetland surfaces are disturbed, making them temporarily vulnerable to erosion. Consequently, streams and wetlands downstream or downwind of construction are susceptible to sediment impacts. Construction also increases the risks of fuel spills and other accidents that can degrade water resources. A secondary impact of road or railway construction, reconstruction and maintenance is the increase in demand for local gravel and related gravel mining operations that cumulatively affect watercourses in the region.

Groundwater and Surface Water Pollution. Stormwater systems associated with roads or highways can transfer pollution on the road surface, be it chemical or garbage, directly to a water body. Without a biological or mechanical filtering system of some kind, RTP projects could facilitate pollution of waterways.

Underground storage tank leakage is an impact related to the use of petroleum fuels. Fleets as well as construction and maintenance equipment that operate on petroleum fuels contribute to these impacts.

Flood Damage. Roads, highways and railways near stream corridors have the potential to sustain flood damage. Many travel corridors in Humboldt County, especially where they cross streams, are susceptible to erosion by high streamflows or closure from flooding. Travel corridor closure during high streamflow events can also impact emergency services, goods movement and normal circulation patterns.

Potentially Significant Impacts

Implementation of the projects and policies of the RTP may have potentially significant impacts upon the water resources of specific watersheds or the region.

Mitigation Measures

The following mitigation measures are proposed for RTP projects to reduce potential water resources impacts:

1. Road/railway design and reconstruction that incorporates long-term maintenance, reduces storm water runoff and erosiveness of that runoff, reduces creation or exacerbation of any slope instability, and disconnects the transportation system from the stream system;
2. Road reconstruction that includes upgrading culverts to convey a 100-year storm event or ensure there is no stormflow diversion potential;
3. Provision of training on effective, state-of-the-art erosion control techniques for maintenance crews and contractors who work on road and railway corridor projects;
4. Identification and approval of spoil and construction material storage sites away from streams or drainages;
5. Improvement of routine drainage structure and facility maintenance to reduce storm event failures;
6. Seasonally appropriate timing of road construction and reconstruction to reduce likelihood of erosion;
7. Use of bridges or causeways to cross streams and wetlands wherever feasible;
8. Incorporation of stormwater filtration systems on construction or reconstruction projects to reduce pollution delivery to stream systems and minimize surface water disturbance;
9. Implementation of spill control measures as part of standard road construction practices;
10. Program/facility enhancement to support conversion to non-petroleum vehicle fuels (especially for transit fleets) to reduce underground storage tank leakage;
11. Design to prevent changes in drainage patterns or encroachment upon stream systems which could increase flooding hazards.

Level of Significance After Mitigation

Implementation of these measures will reduce potential impacts to a less-than-significant level.

5. Air Resources

Environmental Threshold

The RTP would have a significant impact to air resources if there is a violation of an ambient air quality standard or a substantial contribution to an existing air quality violation.

Impact Analysis

Potential air quality impacts include increased levels of ozone smog (Smog is formed when Reactive Organic Gasses (ROG) and Oxides of Nitrogen (NO_x), react in the presence of sunlight to form a third compound, ozone) and Particulate Matter (PM 10). Ozone smog levels in the air basin currently meet air quality standards and are not projected to exceed those standards in the foreseeable future. PM 10 levels do exceed air quality standards. The potential impacts of implementing the RTP, with regard to this pollutant are discussed in the following section.

Approximately 8% of all days during the year exceed the state PM10 standard (50 ug/m³). Almost all violations (non-attainment of the state PM10 standard) occur during

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the cooler periods of the year (the 6 month period from October through March). Some of those emissions are attributable to vehicles, however other sources, such as wood burning and sea salts, generate a share of this pollutant. Table 4.3 illustrate the results of the analysis of PM 10 emissions from the Eureka monitoring station by source.

Table 4.3 Eureka PM 10 source apportionment (average for all samples)

Source	% of total *
Sea salts	25
Woodstoves	13
Unleaded auto	34
Diesel auto	10
Dust	6
Nitrates	2
Sulfates	< 1
Pulp mills	5
Unknown	5
Total	100
* rounded to whole percents	
Source NCUAQMD Particulate Matter (PM 10) Attainment Plan	

1998 emissions levels would need to be reduced by approximately 50% to meet PM10 standards. Projected population growth and associated increases in vehicle use are expected to increase the pollutant levels. The percentage of non-attainment days could increase, if no mitigation measures are adopted, because many days are currently near the maximum allowed and additional emissions would push PM10 levels beyond the standard. This increase would be reflected in both the absolute number of days of violation and the annual average concentration for the local air basin.

Increased vehicle idling at congested intersections could cause carbon monoxide buildup, under certain atmospheric conditions. Increased vehicle use would also contribute to road dust that makes up a component of PM 10 emissions.

The State of California has adopted stringent requirements on gasoline and diesel fuel, to reduce PM10 and other harmful emissions. The State has also recently listed diesel exhaust as a toxic air contaminant, and is implementing a truck emissions control program to eliminate many of the high polluting vehicles through engine replacement. This program will apply to all trucks passing through Humboldt County, regardless of state of origin or registration.

The NCUAQMD has adopted a PM10 reduction plan, and has a set of recommendations that local entities can adopt to help reduce current and future emissions. These recommendations include transportation control measures (public transit, rideshare, park and ride lots, etc.) and land use measures.

Construction activities will lead to construction equipment emissions, vehicle emissions, emission from power and gas generation and consumption, emissions from certain types of equipment and appliances, and dust from excavation, grading, demolition, and debris transport.

Potentially Significant Impacts

Long term impacts on regional air quality are expected to increase at a slower rate than in the past, due to conversion to more efficient and lower emission vehicles and plan

policies and actions encouraging public transit use and bicycle and pedestrian system improvements.

As PM 10 levels in the region currently exceed air quality standards, the proposed RTP is not expected to reduce impacts enough to reach meet NCAQMD attainment standards for PM10.

Mitigation Measures

The following mitigation measures are proposed to reduce potential impacts to air resources:

1. Encourage implementation of NCUAQMD's transportation control measure recommendations for reducing PM 10 emissions.
2. Implement the RTP policies for the use of low emission vehicles and for energy conservation in transportation decisions.

Level of Significance After Mitigation

The region is currently not in compliance with the standards for PM10. Consequently, even though the recommended mitigation measures will reduce emissions of PM 10, this impact remains significant.

7. Biological Resources

Environmental Threshold

According to state and federal criteria an impact would be significant if there was substantial interference with the movement of resident or migratory fish or wildlife species; substantial effect (loss) to a rare or endangered species or the species' habitat; or substantial diminishment of plant, fish or wildlife habitat.

Impact Analysis

A potentially significant biological impact is one that negatively affects nesting or rearing habitat, reproduction, migration corridors, food sources, species, or reduces a species to a level such that it cannot sustain itself, and include:

Already planned and approved projects built at or near sensitive habitat areas could disturb existing plant life on specific sites; lead to the removal of native vegetation on undeveloped areas; and introduce non-native grass, bushes, trees and other landscape materials. RTP projects may disturb or damage endangered and sensitive plant species, and in turn, lead to the destruction of animal habitats. The loss of habitat initially may cause animals to relocate to adjacent areas with similar habitat.

Fisheries Impacts. Salmonid migration can be impacted by road and rail stream crossings. Alterations to instream habitat can be caused by road/rail construction or reconstruction encroaching into the stream corridor. Improperly designed waterway road or rail crossings can behave as complete or intermittent barriers to both upstream and downstream migration of juvenile and adult fish.

Sediment contributions from crossing failures, slope failures, and more erosive runoff increase turbidity, which negatively affects fish health. Clearing of riparian vegetation or construction of rock slope protections without vegetative cover can contribute to increased water temperatures, which also negatively affects fish health.

All of these fisheries impacts are often exacerbated by the emergency relief funding process and associated lack of geomorphology and fisheries expertise in emergency repairs (U.C. Cooperative Extension 1998).

Road System and Rail Line Impacts to Fish Passage. In 1998, Humboldt County commissioned an analysis and assessment of culverts on the county road system. Those culverts on fish-bearing streams (approximately 70 culverts) were surveyed and fish passage success evaluated analytically and through observation. The culverts where fish passage is a concern were identified and prioritized for replacement and repair. This prioritization is being used to guide grant writing for culvert repair and replacement funds. The report, "Culvert Inventory and Fish Passage Evaluation of the Humboldt County Road System", is being prepared by Ross Taylor and should be complete in August 1999.]

A less intensive survey was conducted of the railroad's stream crossings. This assessment was conducted by the Humboldt County Resource Conservation District (HCRCD) for the Department of Fish and Game. It found approximately 125 culverts with diameter greater than 4 feet under the railroad bed in the Eel River basin, but few of these blocked streams with significant anadromous fish habitat. A follow-up study that is identifying and prioritizing crossings that need fish passage improvements indicates that about six culverts pose serious fish passage problems. Half or fewer of these six appear feasible to improve; the prioritization will be used to request grant funding for fixing these. A report on the stream crossing survey ("Eel Basin Railway Fish Passage Assessment", 1997) is available from the HCRCD; a report on the prioritization study is in preparation. (Source: Curtis Ihle, HCRCD)

Riparian and Wetland Degradation. Road and railway construction, reconstruction and maintenance can impact riparian corridors and wetlands.

Wildlife Movement. Wildlife migration corridors and natural ranges, such as those of elk and raccoons, are interrupted by roads and highways. Interruption or blockage of these corridors can decrease access to food and water sources, ability to reproduce, and can result in fatalities from interaction with vehicles. Implementation of RTP projects, especially those that increase the road or highway corridor crossing distance for animals or create other such barriers could exacerbate these impacts.

Non-Native Species. Introduction and proliferation of non-native plant species occurs during reconstruction and maintenance projects that introduce new soil or materials from other areas as well as from the creation of disturbed areas where non-native species can dominate. These "exotic" species can out-compete native species and spread from transportation corridors to nearby public or private lands.

Potentially Significant Impacts

The loss of threatened and endangered species and associated habitats, or substantial interference with the movement of resident or migratory fish or wildlife species, is potentially significant.

Mitigation Measures

The following mitigation measures are proposed to reduce potential impacts to biological resources:

1. Development and implementation of guidelines for road and rail corridor construction and maintenance activities that protect salmonid habitat—

recommended in a final report to the Five County Planning Group in the fall of 1998 (U.C. Cooperative Extension).

2. Design and implementation of road and rail reconstruction projects that allow unimpeded fish passage at all flow levels for fish-bearing streams, encourages use of bridges over streams rather than culverts, use fish ladders or weirs when necessary, and provide for an adequate maintenance program;
3. Avoid construction in fish bearing streams or in the habitat of any sensitive species during especially sensitive periods (e.g., during spawning runs of protected salmon populations).
4. Enforcement of harbor district ordinance requiring that vessels flush ballast at sea.
5. Delineation of protection zones around riparian and wetland areas for road/rail reconstruction and maintenance;
6. Incorporation of riparian vegetation planting into construction or reconstruction projects in riparian zones when appropriate.
7. Incorporation and consideration of the movement of resident or migratory wildlife species into project design.

Level of Significance After Mitigation

Implementation of these measures will reduce potential impacts to biological resources to a less-than-significant level.

8. Noise

Environmental Threshold

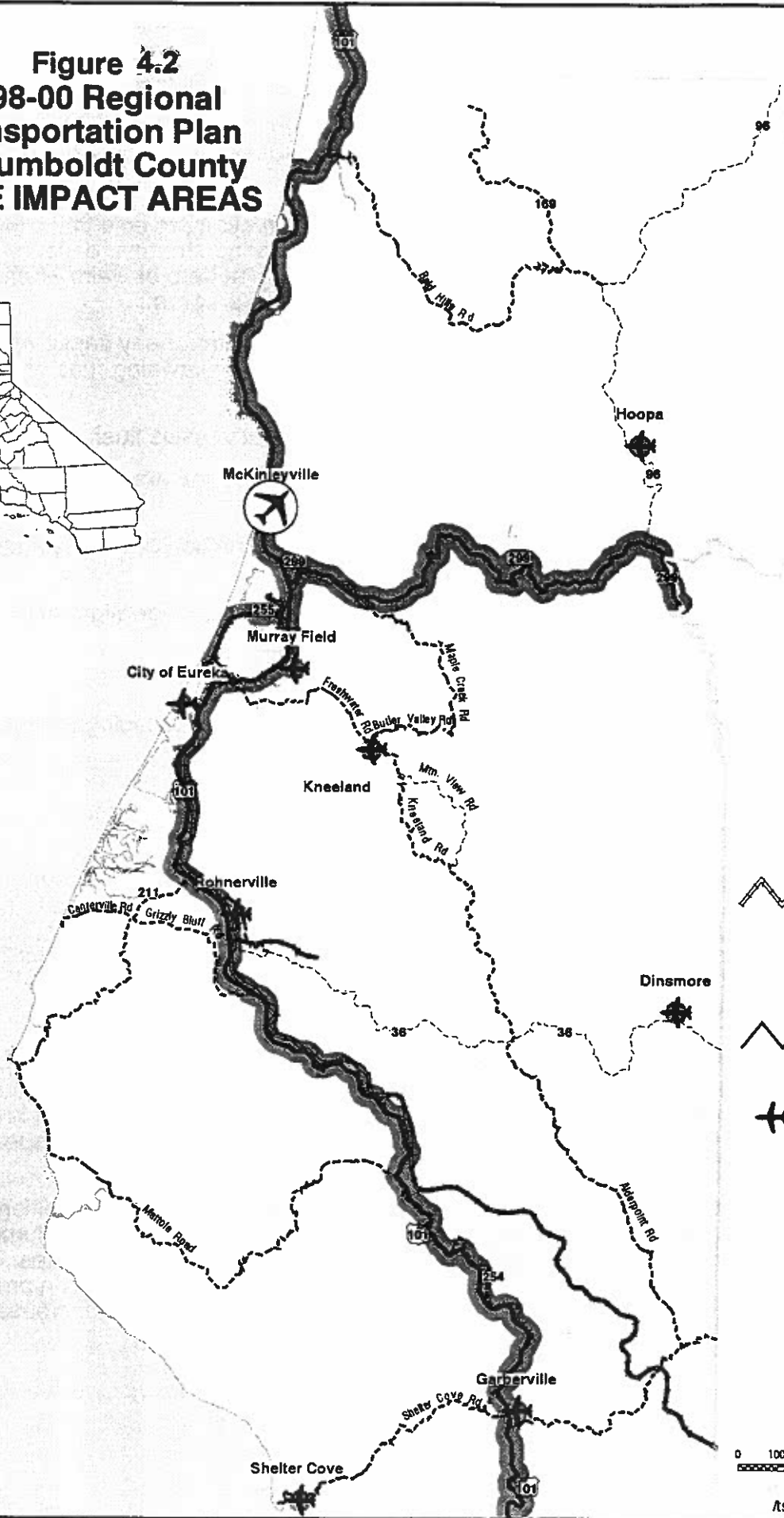
A significant noise impact is one where noise levels at the receptor or measurement point exceed locally established standards or there is a perceptible increase in ambient noise levels. Exposure of noise sensitive uses (residences, schools, libraries, hospitals, medical care facilities, nursing homes) to high noise levels is also considered a significant adverse impact. For airport noise, 60 dB CNEL is the threshold of significance for adjacent residential uses.

Impact Analysis

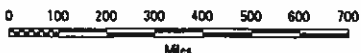
The majority of noise impacts from mobile sources occur adjacent to higher volume roadways, train tracks and airports, as shown in Figure 4.2. The local railroad is not currently operating, however railroad noise is included as a potential impact due to the scheduled resumption of service in 1999.

Additional potential noise impacts include short-term noises related to demolition and construction activities and long-term impacts related to increases in travel volumes. Short-term impacts will be incremental and will occur on individual project sites. The impacts that may accompany development of already planned transportation projects could include an increase in traffic congestion that may in turn generate increased noise impacts along major roadways.

Figure 4.2
1998-00 Regional
Transportation Plan
for Humboldt County
NOISE IMPACT AREAS



-  North Coast
Railroad
Authority
Existing
Right-of-Way
-  Principal
Arterial
-  Airport
Facility



tsien/transport/noise.aml 5.99 sri

Traffic Noise Impacts. The highest volume roadways in the City include US 101 and Highway 299. These routes pass through different types of topography and vegetation, which affect noise levels on adjacent uses. The following table shows noise level adjustments for adjustments for different topographic situations.

Table 4.4 Traffic Noise Adjustments for Topographic Conditions

Topographic Situation	Distance from Center of Roadway (Feet)		
	< 200	200 - 400	> 400
Hillside overlooks roadway	-0-	+1 dB	+3 dB
Roadway Elevated (>15')	-5 dB	-2 dB	-0-
Roadway in cut/below embankment	-5 dB	-5 dB	-5 dB
Dense vegetation (100 feet or more)	-5 dB	-5 dB	-5 dB

Traffic-related noise is expected to increase due to projected increases in population and recreational travel in the County. Since noise increases are often not perceptible unless the increase is 3 decibels or more (an increase of 3 decibels requires a doubling of the traffic volume), it is not expected that noise impacts from individual transportation projects will be perceptible or adverse. Rather, increases in noise levels will generally be incremental and imperceptible over the long term.

Some diversion of vehicle trips is expected to occur as a result of improved transit service and improvement of bicycle and pedestrian facilities. Noise levels due to automobiles and heavy trucks are generally dependent on speed, traffic volume and distance from the roadway.

Train Noise. Should the railroad resume service, as planned, scheduled service is expected to be similar to previous periods of railroad operation. This operation would occur along existing track facilities. Noise levels due to trains, when operating, are infrequent and generally of short duration (less than a couple of minutes per operation).

Airport Noise Impacts. Humboldt County and the Humboldt County Airport Land Use Commission have adopted 60 dB CNEL as the threshold of significance for residential uses near an airport. That is, outside of the 60 dB CNEL contour residential uses are normally acceptable.

Overflight concerns exist within the common traffic pattern for each airport. The common traffic pattern can be considered anywhere aircraft are commonly at or below 1,000 feet above airport elevation. No residences exist within the forecast 60 dB CNEL contours for county airports except the Arcata -Eureka and Garberville Airports. At Arcata-Eureka Airport residences exist within the forecast 60 dB CNEL contour northeast of the airfield and in the approaches to Runway 32. The Garberville Airport has one residence located southeast of the runway that lies within the forecast 60 dB CNEL contour.

Near the Arcata-Eureka Airport, approximately 10 residences exist within the forecast 60 dB CNEL contour. These residences are located northeast of the airfield and in the approach to Runway 32. Garberville Airport has one residence located southeast of the runway that lies within the forecast 60 dB CNEL contour. Rohnerville airport has about one dozen houses located within its current 60 dB CNEL contour. Changes in the types of fire attack aircraft are forecast to reduce the noise contours. The number of residences remaining within the 60 dB CNEL contour will be reduced by at least 50%. No residences exist within the forecast 60 dB CNEL contours for: Dinsmore Airport, Eureka Municipal Airport, Hoopa Airport, Kneeland Airport, Murray Field, and Shelter Cove.

Potentially Significant Impacts

Projected traffic increases and other planned circulation improvements are not expected to substantially increase noise levels or impact sensitive receptors.

Mitigation Measures

The following mitigation measures are proposed to reduce potential noise impacts:

1. Circulation projects included in the RTP shall comply with federal and state guidelines for roadway and vehicle noise.
2. Implementation of the compatibility measures contained in the *Humboldt County Airport Land Use Plan* by Humboldt County and the cities of Eureka and Fortuna. These measures include adoption of appropriate land use designations and zoning, and acquisition of avigation easements where possible.
3. Acquisition, on a voluntary basis, of those existing residences lying within the forecasted 60 dB CNEL contour as designated on the Airport Layout Plan for Arcata-Eureka Airport.

Level of Significance After Mitigation

Implementation of these measures will insure the reduction of impacts to a less-than-significant level.

9. Public Services (Including Energy Resources)

Environmental Threshold

The potential impacts to public services would be significant if planned improvements exceeded existing or planned pipeline capacities for the region, or if projected energy consumption exceeded existing or planned supplies, or delivery system capacity.

Impact Analysis

Pipeline Transport. Pipeline transport needs are generally being met by natural gas and water suppliers, through continued monitoring and upgrading of transmission systems. Upgrading Eureka's water transmission line from Arcata and the eventual upgrading or replacement of the Humboldt Bay Municipal Water District (HBMWD) transmission line from the Mad River intake to Samoa are expected to meet future capacity needs.

Energy Resources. Greater consideration to designing energy conservation into transportation projects and selecting energy-efficient project alternatives, by Caltrans, Humboldt County, and other agencies is proposed in the 1998-00 RTP. This is expected to increase the awareness of the importance of energy conservation and refocus existing planning processes towards increased conservation. These considerations are expected to reduce potential impacts on energy resources. The planned conversion to low emission vehicles, including natural gas transit vehicles, will increase the amount of natural gas consumed for transportation. This is expected to have beneficial impacts, due to the expected reduction in petroleum product consumption. There are sufficient natural gas supplies available to accommodate increased consumption of this energy resource.

Potentially Significant Impacts

The potential impacts to energy resources are not expected to be significant.

Mitigation Measures

The following mitigation measures are proposed to reduce potential public services impacts:

1. Implement RTP policies for pipeline management and routing, and for the use of low emission vehicles for energy conservation.

Level of Significance After Mitigation

All impacts will be reduced to a less-than-significant level.

10. Cultural Resources

Environmental Threshold

A potentially significant impact to cultural resources is one where paleontological, archaeological or historical sites, assessed as significant, are damaged or destroyed.

Impact Analysis

Projects that are located at or near sensitive archaeological, paleontological or historical sites, may impact cultural resources depending on their proximity.

Significance to cultural resources would be assigned in accordance to an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special and particular quality such as being the oldest or best available example of its type, or is directly associated with a recognized important prehistoric or historic event or person. Impacts to historical resources would be significant if implementation of a transportation improvement activity caused a substantial adverse change to a resource which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources.

Road, highway, waterway or railway construction, reconstruction and maintenance activities where earthmoving or dredging occur have the potential to disturb or destroy recorded and unrecorded cultural resources. Paleontological and archaeological resources are particularly sensitive to heavy equipment excavation activities by which valuable stratigraphic information can easily be lost. Historic resources still in use (bridges, road corridors, structures) could potentially be altered or lost due to seismic retrofitting and transportation corridor widening.

Potentially Significant Impacts

Implementation of the projects and policies of the RTP may have significant impacts upon both recognized and unrecorded cultural resources.

Mitigation Measures

The following recommended measures to reduce potential impacts to cultural resources are based on Policy 3531 of the Humboldt County General Plan (1984).

1. Cultural resources (including but not limited to archaeological, paleontological and architectural sites, grave sites and cemeteries) shall be identified where feasible, assessed as to significance, and if found to be significant, protected from loss or destruction.

2. The Northwest Information Center of the California Historical Resources Information Center and historical organizations shall be consulted during project review for the identification and protection of cultural resources.
3. Archaeological and paleontological resources shall not be knowingly destroyed or lost through a discretionary action unless the site or resource has been found to be of insignificant value by relevant experts and representatives of the cultural resources community.

Level of Significance After Mitigation

These measures are intended to protect both recognized and unrecorded cultural resources. Adhering to these measures will reduce potential adverse impacts associated with loss or damage in cultural resources to a less-than-significant level.

11. Aesthetics

Environmental Threshold

Aesthetic impacts would be significant if implementation of the RTP substantially degraded the existing visual character or quality of the aesthetic natural, cultural or biological resources present within the county or created a new source of substantial light or glare which would adversely affect the day or nighttime views.

Impact Analysis

The majority of the proposed roadways and roadway widening projects will not result in major changes in views or visual quality of the County. Similarly, most projects will have minimal lighting impacts. However, several of the long-term transportation projects, such as upgrading of US 101 and improvements to Route 299, have the potential substantially alter viewsheds. Extensive cut and fill or removal of native vegetation are examples of potentially significant impacts to aesthetic resources.

Potentially Significant Impacts

While the majority of the improvements and policies listed in the RTP will have minimal long-term aesthetic impacts, the scale or location of some projects does have the potential to impact aesthetic resources in the region.

Mitigation Measures

The following mitigation measures are proposed to reduce potential aesthetics impacts:

1. RTP projects shall be designed to avoid the degradation of the existing visual character or quality of natural, cultural, or biological aesthetic resources. Design elements of new facilities located within identified scenic vistas should be as compatible as possible with the immediate vicinity.
2. RTP projects shall be designed to include landscape screening and lighting design that minimize visibility of new transportation facilities from communities, and prominent natural, cultural or biological resources.
3. RTP projects will be reviewed to ensure that the proposed lighting design will cause minimal spillover and glare for adjacent uses. Street and parking area lighting will be unobtrusive, with the lowest intensity compatible with safety, and will be directed downward and shielded to minimize impacts on adjacent residential uses.

Level of Significance After Mitigation

These measures will reduce aesthetic impacts to a less-than-significant level.

12. Population/Housing

Environmental Threshold

The potential impacts to population and housing would be significant if planned transportation improvements resulted in significant increases in population beyond that projected by the local jurisdiction or if the demand for additional housing exceeded planned supplies.

Impact Analysis

No displacement and relocation of residents and businesses are expected to occur as a result of implementing the proposed plan. Short-term construction and permanent employment opportunities that will be created by the projects can lead to increases in the daytime and resident population. No increase in housing demand, beyond that projected for the region, is anticipated. Minimum impacts on population and housing are expected as a result of implementing the proposed plan.

Potentially Significant Impacts

The potential impacts to population/housing are not expected to be significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Implementation of the RTP will have no significant impacts.

B. UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

Section 15126.2 (a) of the CEQA Guidelines states that the significant environmental effects of the proposed project be identified in the EIR. Chapter 4 provides an analysis of the potential environmental effects of implementing the proposed RTP. This analysis concluded that all potential effects could be avoided or reduced to a less-than-significant level, through the implementation of RTP policies or listed mitigation measures, except for attainment of air quality standards for PM 10.

There have been exceedences of the 24 -hour standard for PM 10, based on local air sampling. While the percentage of days the 24-hour PM 10 standard has been exceeded at the Eureka monitoring station has been decreasing over the last several years, the standard is still exceeded every year, usually in the winter months. 1998 emissions levels would need to be reduced by approximately 50% to meet PM10 standards. While the proposed RTP contains a number of policies and measures designed to improve air quality, projected increases in vehicle use may offset those improvements. The trend in air quality improvement and reduction in the number of days the 24-hour standard is exceeded is expected to continue, however it cannot be predicted when attainment could be reached. Therefore this impact remains significant.

C. ECONOMIC AND SOCIAL EFFECTS

CEQA does not require that the environmental review process include a discussion of potential social and economic effects. This section has been added to highlight how planning for the mobility needs of goods and people can have several beneficial social and economic effects. One example of social effects is the important role transportation plays in workforce development programs. These programs, such as Workforce Development for the 21st Century, provide training, job search assistance, dislocated worker services and other program support for the unemployed and the underemployed. Getting people to and from jobs is an important factor in the success of this and similar programs. The proposed partnership between the Humboldt Transit Authority and the Private Industry Council, to provide daily transit service between Redding and Eureka, will provide workers in the east county area that need to travel to Eureka for employment with an alternative to travel by private auto.

It has been noted in public meetings held as part of the RTP preparation, and in meetings with the Private Industry Council and other workforce development agencies, that transportation is a high priority need for residents of the east south and north portions of the county. Planned expansion of transit services to those more rural areas of the county will help meet those needs.

Economic effects of transportation improvements include removing barriers to goods movement. The harbor deepening currently in progress for Humboldt Bay, the planned resumption of rail service, and planned improvements for goods movement by truck are all examples of transportation improvements that have beneficial economic effects.

Improvements for recreational travel, including traveler information and safety programs and designation of certain routes as scenic byways, are also expected to increase tourism and expand that component of the local economy.

CHAPTER 5 EVALUATION OF PLAN ALTERNATIVES

A REQUIREMENTS FOR ALTERNATIVES

The development of alternatives to the proposed action provides a range of possible actions, to achieve the objective of developing a Regional Transportation Plan for Humboldt County.

CEQA Guidelines state that the EIR must describe and evaluate a reasonable range of alternatives to the project. The CEQA Guidelines for alternatives follow.

15126.6 Consideration and Discussion of Alternatives to the Proposed Project

(a) Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376).

(b) Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

(c) Selection of a range of reasonable alternatives. The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

(d) Evaluation of alternatives. The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but

in less detail than the significant effects of the project as proposed. (County of Inyo v. City of Los Angeles (1981) 124 Cal.App.3d 1).

(e) "No project" alternative.

- (1) The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (see Section 15125).
- (2) The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.
- (3) A discussion of the "no project" alternative will usually proceed along one of two lines:
 - (A) When the project is the revision of an existing land use or regulatory plan, policy or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy or operation into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed. Thus, the projected impacts of the proposed plan or alternative plans would be compared to the impacts that would occur under the existing plan.
 - (B) If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.
 - (C) After defining the no project alternative using one of these approaches, the lead agency should proceed to analyze the impacts of the no project alternative by projecting what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

(f) Rule of reason. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit

a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

B IDENTIFICATION AND EVALUATION OF ALTERNATIVES

Regional Transportation alternatives are subject to the physical characteristics and natural resources of the county, as well as the travel patterns and preferences of residents and businesses. In addition to the no-action alternative, which is analyzed at the end of this chapter, two alternatives to the proposed plan have been identified. They are the alternative mode alternative and the fully funded RTP alternative.

1. Alternative Mode Alternative

This alternative would allow for a more developed transit, bicycle and pedestrian system linking population centers of the County. Transit service improvements would include expanded weekend and evening service, in addition to the extended services to east, south and north county areas, and more frequent service on established routes. Bicycle and pedestrian improvements would focus on facilities linking residential and activity centers, such as schools, shopping and employment areas. It would also include expanded air, rail and bus service in and out of the County for improved interregional travel.

Passenger rail service would be provided along the NCRA route linking Humboldt County with metropolitan areas to the south, and between Eureka and Arcata, also using established freight rail facilities. Marine and rail transport would be the primary methods of goods movement, rather than truck transport. Intermodal facilities for rail to ship and truck to rail would be developed on Humboldt Bay.

This alternative would support mixed use development in urban areas and more transit oriented development. The Alternative Modes Alternative would continue to develop all projects identified in the RTIP. The intermodal center planned for Eureka would be included. It would also include transportation system management measures for improved traffic flow, more park and ride lots and ridesharing programs, and more bikeway and pedestrian projects. There would also be an increased emphasis on transportation management programs that would provide incentives for shuttle services or vanpools and carpool matching services.

The potential impacts of this alternative are discussed below.

Land Use

Land use changes that would occur under this alternative include improvements to existing intermodal infrastructure, expanded use of transit stations and routes, increased bicycle and pedestrian facility use, and the expected emergence of transit oriented development around transit stations. Land use patterns would be expected to change somewhat under this alternative, to reflect land use characteristics of transit oriented development and the presence of more intermodal facilities. These changes would be consistent with adopted land use plans in the county's largest population centers, Eureka and Arcata where intermodal facilities exist or are planned, however these types of facilities and uses have not been planned for in other areas of the county.

Alternative transportation modes such as higher volume transit use and passenger rail service are typically consistent with urban areas and uses, but can be inconsistent with the rural land use plans and patterns in certain areas of the county. Expanded transit and new passenger rail services could be accommodated on existing routes and would not require conversion of land from other uses. Intermodal facilities on Humboldt Bay are consistent with water dependent industrial uses specified in local land use plans.

Circulation

Expanded transit service, improved bicycle and pedestrian facilities, and the availability of other transportation modes under this alternative are expected to reduce vehicle trip volumes on regional roadways, compared to the proposed plan. Home to work trips are expected to be reduced due to increased transit ridership, resulting in less vehicle congestion on major routes in the County. Less demand on roadways would be expected to reduce the need for roadway improvements. Reduced truck trips, due to increased goods movement by rail and marine transport, would also alleviate roadway maintenance requirements.

Geology

With increased emphasis on transit and non-motorized travel, as well as increased non-engineering/construction solutions for transportation management, there is expected to be less highway or road alignment expansion and associated slope instability. More bike lanes, bike paths and sidewalks could require road alignment expansions on a smaller scale or development of new travel corridors for multiple-use paths. These corridors would be narrower in width, requiring less cut and fill, and greater flexibility for conforming with topographic characteristics of the county. Less goods movement by truck would reduce the need to upgrade sections of US 101 in the south and north county resulting in fewer potential impacts to geologic resources in those areas.

Water Resources

Because highway projects will be limited under this Alternative, impacts on stormwater runoff quantity, water quality, and watercourse disturbance may be less than the proposed plan. Transit oriented development and the use of intermodal facilities is typically a more compact form of development, resulting in less extensions of infrastructure into outlying areas. This could reduce the amount of impervious surface (streets, parking lots etc.) which would also decrease runoff.

Air Resources

New construction of intermodal facilities would lead to short term construction equipment and vehicle emissions, emission from power consumption, and dust from excavation, and grading. An emphasis on transit and alternative transportation modes under this alternative would likely result in fewer air quality impacts than in the proposed plan. Vehicle trips would be exchanged for transit, bicycle, and pedestrian use, which would lead to less pollutant emissions in the County. Goods movement by rail has also been shown to cause fewer emissions than moving comparable cargo volumes by truck.

Biological Resources

Similar to impacts described under water resources, the reduced need for upgrading US 101 in the south and north county would reduce potential disturbances to biological habitats in those areas. Expanded transit and passenger rail service would also reduce

the need to improve the Eureka - Arcata US 101 Corridor. The overall impacts on biological resources are expected to be less than under the proposed plan.

Noise

The potential noise impacts of projects under the Alternative Modes Alternative include short-term noises related to construction activities. The increased use of public transit systems will mean decreases in traffic noise on freeways and major roadways. However greater noise impacts may result from increased air travel and rail use, compared to those under the proposed plan.

Public Services (Including Energy Resources)

The reduction on vehicle trips due to the expected increase in transit, bicycle, and pedestrian trips would result in lower consumption of fossil fuels than under the proposed plan. Rail and marine transport of goods also requires less fuel consumption than moving comparable cargo volumes by truck.

Cultural Resources

No new roadway facilities would be planned in undeveloped areas where cultural resources have the potential to be disturbed or destroyed. Intermodal facilities would be located in developed areas where there is less potential for disturbance. The cultural resources impacts are expected to be less than, or comparable to proposed plan.

Aesthetics

Street lighting from projects under this alternative would be minimal due to the emphasis on an expanded transit system, and improved bicycle and pedestrian facilities. No new roadway projects would have the potential to alter the viewshed. The aesthetic impacts are comparable to proposed plan.

Population/Housing

The potential for increased transit use has been shown to be proportional to higher housing densities within walking distance of transit stops. Bicycle and pedestrian trips are also more likely to increase when the distances between residential areas and activity centers are relatively short, and where there are adequate bike lanes and walkways. The county's major population centers, Eureka and Arcata, have sufficient residential densities and population areas to support increased transit and alternative transportation mode usage. Other areas of the county are typically lower density and, may lack sufficient population around transit stops to adequately support expanded transit programs that would occur under this alternative. This could lead to increased demand for housing in certain areas.

Summary of Impacts under this Alternative

The environmental impacts on air quality, water, biological resources, and energy, associated with this alternative, would be less than those expected under the proposed plan. Potential land use, noise and population and housing impacts would be greater under this alternative, compared to the proposed plan. All other impacts are comparable to those expected under the proposed plan.

2. Fully Funded RTP Alternative

This alternative would contain full funding for identified but currently unfunded highway improvements, including the upgrading of US 101 to freeway the entire length of Humboldt County. This would include not only the upgrading of the roadway through Richardson Grove in the south county, but also between Trinidad and the Del Norte County line. The segment of US 101 between Eureka and Arcata would be upgraded to freeway status. Roadway improvements to Highway 299 east of Blue Lake to the Trinity County line, as designated in route concept reports, would also be included.

This alternative would prioritize funds for roadway development and potentially defer or delay improvements for other modes, such as transit services and bicycle and pedestrian facilities. This would emphasize the use of single occupant vehicles rather than the more balanced transportation approach taken in the proposed RTP.

The potential impacts of this alternative are discussed below.

Land Use

Fully funded RTP projects would potentially convert undeveloped areas and decrease open space. Land use changes that would occur with this alternative include improvements to existing roadway infrastructure, most notably the upgrading of US 101 to freeway through the County. Reduced travel times to the county's major population and employment centers, from south and north county areas, may increase development potential in those areas. Land use development is expected to reflect the emphasis on highways and regional roadways. Land use impacts would be considered to be greater than under the proposed plan.

Circulation

This alternative will lead to a long-term increase in vehicle trips due to the availability of highway capacity and the lack of emphasis on alternative transportation modes. This alternative is expected to result in continued reliance on single occupant vehicles as the main form of travel and the continued need for roadway infrastructure to accommodate that transportation mode. Increased truck use, including use of longer truck trailers, would result from upgrading US 101 and the elimination of truck travel restrictions along that corridor. Traffic impacts are expected to be greater than those projected under the proposed plan.

Geology

An emphasis on increasing road- and highway-capacity will potentially increase the potential for slope instability and erosion and potentially increased need for spoils and construction materials management. By increasing the capacity of highways, the relative impacts due to seismic events would potentially be greater as well. Because the majority of projects under this alternative would be highway improvements, erosion and slope stability impacts would be greater than what would be expected to occur under the proposed plan.

Water Resources

Projects under this Alternative have the potential to affect surface and ground water resources. These impacts include an increase in storm runoff; changes in water quality, temperature, oxygen or turbidity; and potential alterations to the course or flow of flood waters. New highway projects may also contribute contaminants into the stormwater,

surface water or groundwater from roadway debris, spilled oil and gas. Also, depending on location, these projects may impact, or be impacted by water courses and floodplains. Because the majority of projects under this alternative would be highway improvements, impacts on stormwater runoff quality and quantity and water channel disturbance would be greater than under the proposed plan.

Air Resources

Ongoing roadway construction under this alternative will lead to construction equipment and vehicle emissions, power and gas consumption, and dust from excavation and grading that may accompany projects. These impacts will lead to further reductions of air quality in the area in the short- and long-term. The expansion of highway projects under this alternative would result in greater construction and vehicle emissions than the proposed plan, due to continued reliance on automobile use as the primary means of mobility. This alternative will not move the county closer to attainment of PM10 standards.

Biological Resources.

The implementation of the projects under this alternative could disturb existing plant life on specific sites. Projects may lead to the disturbance or damage of endangered and sensitive plant species, and in turn, lead to the reduction of animal habitats. Since there will be more highway projects, this alternative will have a greater potential to disturb native plants and animals in the area than under the proposed plan.

Noise

The potential noise impacts of projects under this alternative include short-term noises related to demolition and construction activities. The improvement and development of highways and regional streets would lead to reduced congestion on these roadways. Increases in traffic on the freeways will result in increases in ambient noise levels along the most traveled segments. There will be no increase in train and stationary noise with this alternative because commuter rail service would not be provided. Noise impacts under this Alternative would be less than under the proposed plan.

Public Services (Including Energy Resources)

Highway projects under this alternative will have minimum requirements for power and natural gas for construction and street lighting purposes. The continued use of private automobiles and trucks will lead to increased consumption of gasoline and petroleum, more than expected under the proposed plan.

Cultural Resources

Future projects may impact archaeological resources if construction sites are located near or within sensitive areas. Infrastructure development in currently undeveloped areas may have an impact on undiscovered archaeological resources. Cultural resources impacts are comparable to the proposed plan.

Aesthetics

Highway projects built under this alternative may lead to a more urban atmosphere in the area, although no obstruction to scenic views are expected because improvements would generally not rise above ground. The potential for light and glare will be limited to those coming from street light poles and vehicles using the highways.

Population and Housing

Fully funded RTP projects would not directly result in increased housing development, but may lead to an increased demand for housing. In outlying areas of the county as roadway capacity improves and travel times decrease.

Summary of Impacts under this Alternative

The environmental impacts on circulation, air quality, water, biological resources, and energy, associated with this alternative, would be greater than those expected under the proposed plan. Potential land use, noise and population and housing impacts under this alternative would be comparable to the proposed plan.

C No Project (1996-98 RTP) Alternative

The no-project alternative preserves baseline conditions and assumes that the existing 1996-98 RTP would continue to be implemented. Under this alternative transportation projects would be limited to those with approved funding. Maintenance projects would continue to be carried out based on available roadway funds.

Highways, roadways and streets would be developed only if they were in the current STIP. The no-project alternative assumes no expansion of transit service, such as the planned Highway 299 service, and extended services along the US 101 corridor to north and south county areas. Vehicle trips would continue to increase at current rates, with less emphasis on developing alternative transportation modes.

Planned projects without sufficient funds for completion, such as the US 101/Highway 36 interchange would not be built and the Eureka - Arcata US 101 Corridor Improvement Project would not be completed. The planned intermodal facility in Eureka would not be completed. Other programs and policies included in the 1998-00 RTP but not a part of the 1996-98 RTP such as Advanced Transportation Systems, and policy encouraging low emission vehicles, would not be implemented

Land Use

Fewer regional transportation projects would be built under this alternative. The consistency with adopted land use plans is comparable to land use consistency under the proposed plan. However certain facilities identified in adopted land use plans, such as the Eureka intermodal center, would not be built.

Circulation

Under the Alternative, transportation projects will be limited to those that have available funding. This will mean that other County transportation needs, such as the construction of the US 101/Highway 36 interchange and the improvement of the Eureka - Arcata US 101 Corridor, would not be met. Therefore, the County is expected to experience no improvements in traffic congestion and decreased mobility. The circulation impacts of this Alternative would be greater than those under the proposed plan.

Geology

Geologic impacts would be those associated with currently-funded projects. Impacts related to construction would remain at current levels and then decrease as no new projects are implemented. Impacts associated with reduced maintenance would potentially increase due to a lack of funding for necessary slope treatment, stabilization, and other maintenance.

Water Resources

Limited highway projects under this alternative would still have the potential to affect surface and ground water resources in the area. These impacts include potential increases in stormwater runoff, and surface water and groundwater turbidity and contamination from roadway debris, spilled oil and gas. Also, depending on location, roadways may be impacted by water courses and floodplains, due to reduced maintenance funds. Because of the limited number of projects under this alternative, impacts will be less than those expected under the proposed plan.

Air Resources

The limited number of projects under this alternative will mean less construction emissions than what would occur under the proposed plan. Long term impacts on regional air quality are expected to increase under this Alternative, due to an increase in traffic congestion and the continued reliance on conventional transportation means. Without the proposed projects to relieve highway congestion and encourage public transit use, this alternative will have greater air quality impacts than the proposed plan and not meet the requirements of the NCAQMD for PM10, nor will it help improve overall regional air quality.

Biological Resources

Because of the limited number of projects under this alternative, and because these projects have, for the most part undergone project level environmental review and been required to mitigate potential effects to biological resources, overall impacts will be less than those expected under the proposed plan.

Noise

The potential noise impacts of future projects under this alternative include reduced short-term noise related to demolition and construction activities. These impacts will be incremental and will occur on individual project sites. The impacts that may accompany development of already planned transportation projects under this alternative could include an increase in traffic congestion that may in turn generate increased noise impacts along major roadways.

Public Services (Including Energy Resources)

Natural gas and power needs of project construction under this alternative are expected to be minimal. Continued reliance on conventional transportation (i.e. automobiles), under this alternative is likely to result in increased consumption of fossil fuels. Overall energy impacts of this alternative would be greater than those under the proposed plan.

Cultural Resources

Projects that are located at or near sensitive archaeological, paleontological or historical sites, may impact cultural resources depending on their proximity. No impact on existing historical structures is expected under this alternative.

Aesthetics

Proposed roadways and roadway widening projects will not result in major changes in views or visual quality of the County. Lighting impacts would also be minimal.

Population/Housing.

The limited number of projects under this alternative could still involve short-term construction leading to increases in the daytime and resident population. No increase in housing demand is anticipated under this alternative. Minimum impacts on population and housing are expected under this alternative.

Summary of Impacts under this Alternative

The environmental impacts on water, and biological resources associated with this alternative would be less than those expected under the proposed plan. Potential land use, circulation, air quality, and energy impacts would be greater under this alternative, compared to the proposed plan. All other impacts are comparable.

CHAPTER 6 OTHER CEQA CONSIDERATIONS

A SIGNIFICANT IRREVERSIBLE EFFECTS

EIR's are required by CEQA to describe any significant irreversible environmental changes which would result from the proposed action, which in this case would be the implementation of the Regional Transportation Plan (RTP). The scope of this analysis is described in the following CEQA Guideline excerpt:

Section 15126.2 part (c) Significant Irreversible Environmental Changes Which Would be Caused by the Proposed Project Should it be Implemented. Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The EIR identifies a number of potentially significant impacts, most of which can be mitigated by the policy and other measures contained in the RTP. These impacts represent the irreversible commitment of resources for urban development. They include:

- Commitment of materials to construct residences, business and public facilities
- Commitment of materials to construct transportation facilities; water, wastewater and drainage facilities; and other Infrastructure
- Consumption of water, energy and fuel.
- Development of land for urban uses
- Release of materials into the air and waterways
- Generation of additional noise

Changes include use of materials necessary to improve streets and intersections, to accommodate projected increased traffic levels. Infrastructure upgrades that will reduce stormwater flows and inflow and infiltration in the wastewater system will also consume materials and energy. Additional vehicle trips and domestic energy demands will consume fuel and energy resources. These and other changes listed above have been analyzed and, to the extent feasible, mitigation measures have been proposed to reduce potential impacts to a less-than-significant level.

B GROWTH INDUCING IMPACTS

EIR's are required by CEQA to describe any growth inducing impacts which would result from the proposed action.

Section 15126.2 part (d) Growth-Inducing Impact of the Proposed Project. Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for

more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The Regional Transportation Plan is intended to program circulation improvements that address Humboldt County's mobility needs, and implement a more balanced transportation system. Programmed RTP projects will improve roadway capacities and reduce congestion. They will also provide expanded bus services, more pedestrian and bicycle facilities, improved goods movement, and increase transportation management programs. These projects will support existing and future transportation needs in the area and are consistent with projected residential and employment growth. The implementation of planned projects is not expected to directly affect the pace of growth in the community. It is expected that the availability of adequate roadway infrastructure expanded transit services and improved goods movement could indirectly advance urbanization in Humboldt County

Growth-inducing impacts can be either direct or indirect. Direct growth-inducing impacts associated with the RTP include the improvement of the roadway system and the expansion of transit. Improved transportation can prompt new residential and commercial development, and can induce landowners to convert property to urban or more intense urban uses. Conversion of agricultural or other resource lands can result from this type of inducement.

Since RTP projects will be prioritized according to need, existing inadequacies in the transportation system are expected to have priority. These primarily include improvements to US 101, repair of deteriorated county roadways and city streets, and extending transit services to rural areas of the county. The improvement of goods movement could foster economic growth in the county and an increase in demand for support services and utility systems. This would include increased demands for fire protection, law enforcement, government services, and other public services.

Indirect, or secondary, growth-inducing impacts would include growth induced by the additional demand for housing, goods, and support services associated with population and employment increases. Projected population and employment increases for the area are lower than state averages and the improvements planned in the RTP are not expected to cause those projections to be exceeded.

The adoption and implementation of the revised RTP will cause some short-term construction employment increases. Additional employment opportunities in the County are expected to be moderate, and not create additional demand for housing beyond supplies planned for by local cities and the county.

C CUMULATIVE IMPACTS

EIR's are required by CEQA to describe any cumulative impacts which would result from the proposed action.

15130. Discussion of Cumulative Impacts.

(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(c). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a

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lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

- (1) As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.
- (2) When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.
- (3) An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

The Cumulative impacts expected in the county are addressed in this section.

Land Use

Future growth and development are expected in certain areas of the county, including McKinleyville, Fortuna and the unincorporated area surrounding Eureka. Other areas of the county are expected to experience low or minimal levels of growth. Land use changes that would occur with future residential, commercial and industrial projects include the minimal loss of resource land, and more intensive development in the county's larger population growth. Recent updates of general plans for Eureka, and Arcata and McKinleyville (still in progress) include coordinated land use and transportation planning measures designed to reduce or mitigate land use impacts. Cumulative land use impacts are not considered to be significant

Circulation

Future development in the county is expected to generate vehicle trips that would lead to traffic congestion on the county's regional roadways. The RTP includes projections for future trip volumes, based on a cumulative assessment of projected growth in the county. RTP projects are expected to relieve congestion and accommodate traffic volumes projected for the county. The expansion of transit, improvement of alternative mode facilities and a more balanced system of goods movement are expected to reduce cumulative traffic and circulation impacts on the area in the future. There will continue to be deficiencies in the roadway system, primarily due to inadequate financial resources being available to maintain the existing system, however this is not considered a significant cumulative impact.

Geology

Increasing road- and highway-capacity will potentially increase the potential for slope instability and erosion. There would also be potential impacts due to seismic events. The roadway improvements proposed in the RTP include the majority of transportation

projects for the county. Mitigation measures to reduce impacts to geologic resources, contained in this EIR reduce cumulative impacts as well.

Water Resources

Development in the area has the potential to affect surface and ground water resources. These impacts include an increase in storm runoff; changes in water quality, temperature, oxygen or turbidity; and potential alterations to the course or flow of flood waters. New highway projects may also contribute contaminants into the stormwater, surface water or groundwater from roadway debris, spilled oil and gas. Also, depending on location, these projects may impact, or be impacted by water courses and floodplains. Because the majority of projects would be highway improvements, impacts on stormwater runoff quality and quantity, and water channel disturbance are expected to be mitigated through measures proposed in this EIR as well as through project design. RTP mitigation measures to reduce impacts to water resources, are expected to reduce cumulative impacts as well.

Air Resources

Ongoing roadway construction will lead to construction equipment and vehicle emissions, power and gas consumption, and dust from excavation and grading that typically accompanies projects. These impacts will reduce air quality in localized areas in the short-term. The RTP's emphasis on a more balanced transportation system, planned conversions to lower emission vehicles, and transportation management programs to improve traffic flows and reduce vehicle use are all expected to contribute to reductions in transportation related emissions. These cumulative measures will move the county closer to attainment of PM10 standards, but air standard violations during cooler months are still expected resulting in a significant cumulative impact.

Biological Resources

Planned roadway improvements and related development in the County may lead to reductions of plant and animal habitats; the removal of native vegetation; and the introduction of non-native landscape materials. Roadway impacts however would occur over a relatively small portion of the County, and mitigation measures contained in the EIR are expected to effectively reduce cumulative impacts as well.

Noise

The potential noise impacts of roadway improvements and related new development include short-term noises related to demolition and construction activities; noise from mobile sources such as vehicles, trucks, trains and aircraft; and stationary noises related to commercial and industrial activities. Noise levels are expected to increase only incrementally beyond existing levels, consistent with relatively low population and growth projections for the county, and are not expected to result in a significant cumulative impact.

Public Services (Including Energy Resources)

Future growth and development will require energy resources for fuel, for transportation, for power and natural gas services, and for construction activities. Pipeline capacity and energy needs are expected to increase only slightly, based on relatively low population and growth projections for the county. Public service and energy suppliers are expected to meet demand and provide new energy sources as needed.

Cultural Resources

Future development may impact archaeological resources if construction sites are located near or within sensitive sites. Development in currently undeveloped areas may have an impact on undiscovered archaeological and paleontological resources. Historic structures may also be demolished or altered to accommodate new development. Disturbance and destruction of cultural resources may occur if preservation programs are not observed. Mitigation measures for avoiding or reducing potential impacts to cultural resources are expected to be effective in avoiding cumulative impacts.

Aesthetics

New development in the County is expected to result in changes in the visual quality of the area. The increase in urban densities will lead to the loss of vast open spaces and the elimination of the small town atmosphere of the County. New development will lend the area with new structures in place of the existing older structures. New sources of light and glare would also be created.

Population and Housing

Humboldt County is projected to have a population of approximately 140,000 persons, by the year 2020, which represents an increase of approximately 16 % over the 1990 county population. This rate of growth is below state and national trends. Minimum impacts on population and housing are expected.

D LONG TERM BENEFITS VERSUS SHORT TERM GAINS

The adopted 1998-00 RTP will allow the HCAOG to continue implementing regional transportation projects and programs. RTP projects are implemented over a long period, resulting in environmental impacts associated with future projects being incremental and cumulative over the long-term, rather than immediate.

RTP implementation is expected to result in the improvement of local infrastructure and the provision of alternative modes of travel in the area. Highways, roadways, and other improvements built under the RTP will represent a short-term use of the environment; however, continued implementation of the RTP represents a long-term commitment to a more balanced transportation system, with fewer potential impacts to the County, and the provision of population support systems. Land and resources converted to urban uses are unlikely to revert, even after the physical structures' 50- to 75-year life span is reached, due to the infrastructure, including regional transportation systems, that are expected to remain in place.

Long-term effects associated with RTP implementation are projected to include development and maintenance of roadways, expanded transit service, bike and pedestrian facilities, goods movement infrastructure, and other facilities to meet the mobility needs of the region. RTP projects are likely to result in environmental changes as discussed in Chapter 4. Mitigation measures can avoid or minimize the adverse effects of RTP projects and all but one identified impact can be mitigated to less-than-significant levels.

The RTP is intended to ensure the adequate provision of regional transportation infrastructure; to meet mobility needs; and to provide alternative modes of travel which would lead to less pollutant emissions. The revision of the RTP is required at this time, to address state and federal regulations regarding the update of regional transportation plans and the establishment of transportation control measures to improve regional air quality.

E MITIGATION MONITORING

CEQA requires the adoption of a reporting or monitoring program to mitigate or avoid significant effects on the environment.

15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects.

(a) Mitigation Measures in General.

- (1) An EIR shall describe feasible measures which could minimize significant adverse impacts, including, where relevant, inefficient and unnecessary consumption of energy.
 - (A) The discussion of mitigation measures shall distinguish between the measures which are proposed by project proponents to be included in the project and other measures proposed by the lead, responsible or trustee agency or other persons which are not included but the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.
 - (B) Where several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified. Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.
 - (C) Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. Examples of energy conservation measures are provided in Appendix F.
 - (D) If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed. (Stevens v. City of Glendale (1981) 125 Cal.App.3d 986.)

The RTP's policies and RTP mitigation measures mitigate most of the impacts associated with regional transportation projects. Implementation measures included in the RTP call for periodic review and updating of management plans and identify other HCAOG procedures that will monitor mitigation of impacts. These implementation measures also serve as the mitigation monitoring program required by CEQA.

In addition, the HCAOG specifies that RTP projects shall be evaluated for potential impacts identified in this EIR to determine the need for future environmental review, and the ability to "tier" from this document.

Environmentally Superior Alternative

The proposed 1998-00 Regional Transportation Plan for Humboldt County is the environmentally superior alternative. It offers the most balanced transportation system, is consistent with adopted land use plans, and includes policies and other measures to avoid or minimize most environmental impacts. The impacts of this alternative are described in Chapter 4.

CHAPTER 7 RESOURCES, CONTACTS, AND PREPARERS

A. RESOURCE DOCUMENTS

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**Draft Program Environmental Impact Report (EIR)
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APPENDIX A SENSITIVE SPECIES OF HUMBOLDT COUNTY

Definitions

CEQA Section 15380 provides the following definitions for endangered, rare or threatened species. *Species* means a species or subspecies of animal or plant or a variety of plant. A species is *endangered* when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease or other factors. A species is *rare* when, although not presently threatened with extinction, it exists in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens. A species is *threatened* if it is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A *candidate* species has enough information on file with the USFWS to propose listing as threatened or endangered. CEQA Section 15380 also provides that a species may be treated as rare or endangered even if it has not been placed on an official list.

The information in Table A.1 was provided by the Arcata Office of the U.S. Fish and Wildlife Service. All of the listed species below are fully protected under the mandates of the Endangered Species Act of 1973 as amended (Act). Section 9 of the Act prohibits the "take" of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" any such wildlife species, and may include significant habitat modification or degradation where it actually injures or kills wildlife.

In addition, a proutout of the Special Status Plants, Animals, and Natural Communities of Humboldt County follows Table A.1. This information was provided by the California Department of Fish and Game Natural Diversity Database, and has been included because it includes plants and communities.

**Draft Program Environmental Impact Report (EIR)
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Table A.1 Sensitive species of Humboldt County.

COMMON AND SCIENTIFIC NAME	CATEGORY	CRITICAL HABITAT
Amphibians and Reptiles		
Northern red-legged frog, <i>Rana aurora aurora</i>		
Sothern torrent salamander, Tailed frog,		
Leatherback turtle, <i>Dermochelys coriacea</i>	E	Y
Green turtle, <i>Chelonia mydas</i> (incl. <i>agassizi</i>)	T	N
Olive (Pacific) ridley sea turtle, <i>Lepidochelys olivacea</i>	T	N
Loggerhead turtle, <i>Caretta caretta</i>	T	N
Fish		
So. OR / No. CA coho salmon, <i>Oncorhynchus kisutch</i>	T	P
So. OR / coastal CA chinook salmon, <i>Oncorhynchus tshawytscha</i>	PT	N
No. CA Steelhead (Klamath Mts. and No. Ca. subspecies), <i>Oncorhynchus mykiss</i>	C	N
Tidewater goby, <i>Eucyclogobins newberryi</i>	E	N
Sacramento splittail, <i>Pogonichthys macrolepidotus</i>	T	N
Birds		
American peregrine falcon, <i>Falco peregrinus anatum</i>	E	Y
California brown pelican, <i>Pelecanus occidentalis californicus</i>	E	N
Northern spotted owl, <i>Strix occidentalis caurina</i>	T	Y
Bald eagle, <i>Haliaeetus leucocephalus</i>	T	N
Aleutian Canada goose, <i>Branta canadensis leucopareia</i>	T	N
Marbled murrelet, <i>Brachyramphus marmoratus</i>	T	Y
Western snowy plover, <i>Charadrius alexandrinus nivosus</i>	T	P
Mammals		
Steller (northern) sea lion, <i>Eumetopia jubatus</i>	T	Y
Plants		
Two-flowered lathyrus, <i>Lathyrus biflorus</i>	C	N
Western lily, <i>Lilium occidentale</i>	E	N
Menzies' wallflower, <i>Erysiumum menziesii</i>	E	N
Beach layia, <i>Layia carnosa</i>	E	N
Kneeland Prairie penny-cress, <i>Thlaspi montanum var. californicum</i>	PE	N

Key:	PE	Proposed Endangered	Critical Habitat:	
	PT	Proposed Threatened	Y	Designated
	E	Endangered	P	Proposed
	T	Threatened	N	None Designated
	C	Candidate		

California Department of Fish and Game

Natural Diversity Database

For information about these species or natural communities, or other species or natural communities, or for staff contacts, please see the NDDB website at <http://www.dfg.ca.gov/whdab/cnddb.htm>

IMPORTANT NOTICE:

This list of species was produced from data presently included in the California Natural Diversity Database (CNDDDB). The CNDDDB is a positive sighting data base, and our data sets can not be considered to be complete for every species in every county. Therefore, this list must not be considered to be a comprehensive list of all special status species in the county.

Special Status Plants, Animals and Natural Communities of HUMBOLDT COUNTY

Scientific Name	Common Name	STATUS*: <small>*(see footnotes)</small>			
		Federal	California	CDFG	CNPS
Vascular Plants					
<i>Abronia umbellata ssp breviflora</i>	PINK SAND-VERBENA	Species of concern	None		1B
<i>Arctostaphylos canescens ssp sonomensis</i>	SONOMA MANZANITA	None	None		1B
<i>Astragalus agnicidus</i>	HUMBOLDT MILK-VETCH	Species of concern	Endangered		1B
<i>Bensoniella oregona</i>	BENSONIELLA	Species of concern	Rare		1B
<i>Boschniakia hookeri</i>	SMALL GROUND CONE	None	None		2
<i>Calamagrostis foliosa</i>	LEAFY REED GRASS	None	Rare		4
<i>Carex leptalea</i>	FLACID SEDGE	None	None		2
<i>Carex praticola</i>	MEADOW SEDGE	None	None		2
<i>Castilleja ambigua ssp humboldtiensis</i>	HUMBOLDT BAY OWL'S-CLOVER	Species of concern	None		1B
<i>Cordylanthus maritimus ssp palustris</i>	POINT REYES BIRD'S-BEAK	Species of concern	None		1B
<i>Empetrum nigrum ssp hermaphroditum</i>	BLACK CROWBERRY	None	None		2
<i>Epilobium oreganum</i>	OREGON FIREWEED	Species of concern	None		1B
<i>Erysimum menziesii ssp eurekaense</i>	HUMBOLDT BAY WALLFLOWER	Endangered	Endangered		1B
<i>Glyceria grandis</i>	AMERICAN MANNA GRASS	None	None		2
<i>Lathyrus biflorus</i>	TWO-FLOWERED PEA	Candidate	None		1B
<i>Lathyrus palustris</i>	MARSH PEA	None	None		2
<i>Layia carnosa</i>	BEACH LAYIA	Endangered	Endangered		1B
<i>Lewisia cotyledon var heckneri</i>	HECKNER'S LEWISIA	Species of concern	None		1B
<i>Lilium occidentale</i>	WESTERN LILY	Endangered	Endangered		1B
<i>Lupinus constancei</i>	THE LASSICS LUPINE	Species of concern	None		1B
<i>Lycopodiella inundata</i>	BOG CLUB-MOSS	None	None		2
<i>Lycopodium clavatum</i>	RUNNING-PINE	None	None		2
<i>Microseris borealis</i>	NORTHERN MICROSERIS	None	None		2
<i>Monardella villosa ssp globosa</i>	ROBUST MONARDELLA	None	None		1B
<i>Monotropa uniflora</i>	INDIAN-PIPE	None	None		2
<i>Montia howellii</i>	HOWELL'S MONTIA	Species of concern	None		1A
<i>Oenothera wolffii</i>	WOLF'S EVENING-PRIMROSE	Species of concern	None		1B
<i>Puccinellia pumila</i>	DWARF ALKALI GRASS	None	None		2
<i>Rorippa columbiae</i>	COLUMBIA YELLOW CRESS	Species of concern	None		1B
<i>Sanguisorba officinalis</i>	GREAT BURNET	None	None		2
<i>Sanicula tracyi</i>	TRACY'S SANICLE	Species of concern	None		1B
<i>Scirpus subterminalis</i>	WATER BULRUSH	None	None		2
<i>Sedum divergens</i>	CASCADE STONECROP	None	None		2
<i>Sedum laxum ssp flavidum</i>	PALE YELLOW STONECROP	None	None		4
<i>Sidalcea malachroides</i>	MAPLE-LEAVED CHECKERBLOOM	None	None		1B
<i>Sidalcea malviflora ssp patula</i>	SISKIYOU CHECKERBLOOM	Species of concern	None		1B
<i>Sidalcea oregana ssp eximia</i>	COAST CHECKERBLOOM	None	None		1B
<i>Stellaria obtusa</i>	OBTUSE STARWORT	None	None		2
<i>Thermopsis robusta</i>	ROBUST FALSE LUPINE	None	None		1B
<i>Thlaspi californicum</i>	KNEELAND PRAIRIE PENNYCRESS	Proposed Endangered	None		1B
<i>Tracyina rostrata</i>	BEAKED TRACYINA	None	None		1B

**Special Status Plants, Animals and Natural Communities of
HUMBOLDT COUNTY**

<u>Scientific Name</u>	<u>Common Name</u>	<u>STATUS*</u> : *(see footnotes)			
		<u>Federal</u>	<u>California</u>	<u>CDFG</u>	<u>CNPS</u>
<u>Vascular Plants</u>					
<i>Viola palustris</i>	MARSH VIOLET	None	None		2
<u>Snails and Slugs</u>					
<i>Vespericola karokorum</i>	KAROK HESPERIAN (=KAROK INDIAN SNAIL)	Species of concern	None		
<u>Fish</u>					
<i>Eucyclogobius newberryi</i>	TIDEWATER GOBY	Endangered	None	SC	
<i>Oncorhynchus clarki clarki</i>	COAST CUTTHROAT TROUT	Candidate	None	SC	
<i>Oncorhynchus kisutch</i>	COHO SALMON	Threatened	Endangered	SC	
<i>Oncorhynchus mykiss irideus</i>	SUMMER STEELHEAD TROUT	Proposed Threatened	None	SC	
<i>Oncorhynchus tshawytscha spring-run</i>	SPRING-RUN CHINOOK SALMON	Candidate	Candidate		
<u>Amphibians</u>					
<i>Ascaphus truei</i>	TAILED FROG	Species of concern	None	SC	
<i>Plethodon elongatus</i>	DEL NORTE SALAMANDER	Species of concern	None	SC	
<i>Rana aurora aurora</i>	NORTHERN RED-LEGGED FROG	Species of concern	None	SC	
<i>Rana boylei</i>	FOOTHILL YELLOW-LEGGED FROG	Species of concern	None	SC	
<i>Rhyacotriton variegatus</i>	SOUTHERN TORRENT (=SEEP) SALAMANDER	Species of concern	None	SC	
<u>Reptiles</u>					
<i>Clemmys marmorata marmorata</i>	NORTHWESTERN POND TURTLE	Species of concern	None	SC	
<u>Birds</u>					
<i>Accipiter cooperii (nesting)</i>	COOPER'S HAWK	None	None	SC	
<i>Accipiter gentilis (nesting)</i>	NORTHERN GOSHAWK	Species of concern	None	SC	
<i>Agelaius tricolor (nesting colony)</i>	TRICOLORED BLACKBIRD	Species of concern	None	SC	
<i>Aquila chrysaetos (nesting and wintering)</i>	GOLDEN EAGLE	None	None	SC	
<i>Ardea alba</i>	GREAT EGRET	None	None		
<i>Ardea herodias (rookery)</i>	GREAT BLUE HERON	None	None		
<i>Charadrius alexandrinus nivosus (nesting)</i>	WESTERN SNOWY PLOVER	Threatened	None	SC	
<i>Cypseloides niger (nesting)</i>	BLACK SWIFT	None	None	SC	
<i>Egretta thula (rookery)</i>	SNOWY EGRET	None	None		
<i>Fratercula cirrhata (nesting colony)</i>	TUFTED PUFFIN	None	None	SC	
<i>Haliaeetus leucocephalus (nesting & wintering)</i>	BALD EAGLE	Threatened	Endangered		
<i>Nycticorax nycticorax</i>	BLACK-CROWNED NIGHT HERON	None	None		
<i>Oceanodroma furcata (rookery site)</i>	FORK-TAILED STORM-PETREL	None	None	SC	
<i>Pandion haliaetus (nesting)</i>	OSPREY	None	None	SC	
<i>Phalacrocorax auritus (rookery site)</i>	DOUBLE-CRESTED CORMORANT	None	None	SC	
<i>Rallus longirostris obsoletus</i>	CALIFORNIA CLAPPER RAIL	Endangered	Endangered		
<i>Riparia riparia (nesting)</i>	BANK SWALLOW	None	Threatened		
<i>Strix occidentalis caurina</i>	NORTHERN SPOTTED OWL	Threatened	None	SC	
<u>Mammals</u>					
<i>Arborimus albipes</i>	WHITE-FOOTED VOLE	Species of concern	None	SC	
<i>Arborimus pomo</i>	RED TREE VOLE	Species of concern	None	SC	
<i>Corynorhinus townsendii townsendii</i>	TOWNSEND'S WESTERN BIG-EARED BAT	Species of concern	None	SC	
<i>Martes pennanti pacifica</i>	PACIFIC FISHER	Species of concern	None	SC	
<u>Natural Communities</u>					
<i>Coastal and valley freshwater marsh</i>	N.A.	None	None		
<i>Coastal douglas fir western hemlock forest</i>	N.A.	None	None		
<i>Coastal terrace prairie</i>	N.A.	None	None		
<i>Klamath/north coast fall/winter run chinook salmon river</i>	N.A.	None	None		
<i>Klamath/north coast interior headwater fishless stream</i>	N.A.	None	None		
<i>Klamath/north coast rainbow trout stream</i>	N.A.	None	None		

**Special Status Plants, Animals and Natural Communities of
HUMBOLDT COUNTY**

<u>Scientific Name</u>	<u>Common Name</u>	<u>STATUS*:</u> <small>*(see footnotes)</small>			
		<u>Federal</u>	<u>California</u>	<u>CDFG</u>	<u>CNPS</u>
<u>Natural Communities</u>					
<i>North central coast summer steelhead stream</i>	N.A.	None	None		
<i>Northern coastal salt marsh</i>	N.A.	None	None		
<i>Northern foredune grassland</i>	N.A.	None	None		
<i>Sitka spruce forest</i>	N.A.	None	None		
<i>Sphagnum bog</i>	N.A.	None	None		
<i>Upland douglas fir forest</i>	N.A.	None	None		



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research

1400 TENTH STREET SACRAMENTO, CALIFORNIA 95812-3044

NOTICE OF PREPARATION

March 30, 1999

To: Reviewing Agencies

Re: 1998-00 Regional Transportation Plan for Humboldt County
SCH# 99032077

Attached for your review and comment is the Notice of Preparation (NOP) for the 1998-00 Regional Transportation Plan for Humboldt County draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Spencer Clifton, Exec. Director
Humboldt County Association of Governments
235 - 4th Street, Suite F
Eureka, CA 95501

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Mosie Boyd
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Appendix B
NOTICE OF PREPARATION AND RESPONSE

Form A: Notice of Completion

See NOTE below
SCH # **99032077**

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

Project Title: 1998-00 Regional Transportation Plan for Humboldt County

Lead Agency: Humboldt County Association of Governments Contact Person: Spencer Clifton, Exec

Street Address: 235 4th Street, Suite F Phone: 707-444-8208 Director

City: Eureka Zip: 95501 County: Humboldt

Project Location

County: Humboldt City/Nearest Community: _____

Cross Streets: _____ Zip Code: _____ Total Acres: _____

Assessor's Parcel No. _____ Section: _____ Twp. _____ Range: _____ Base: _____

Within 2 Miles: State Hwy #: 101, SR299 Waterways: _____

Airports: Arcata-Eureka Airport Railways: _____ Schools: _____

Document Type

- CEQA: NOP Supplement/Subsequent Early Cons EIR (Prior SCH No.) Neg Dec Other _____
- NEPA: NOI EA Draft EIS FONSI
- Other: Joint Document Final Document Other _____

Local Action Type

- General Plan Update Specific Plan Rezone Annexation
- General Plan Amendment Master Plan Prezone Redevelopment
- General Plan Element Planned Unit Development Use Permit Coastal Permit
- Community Plan Site Plan Land Division (Subdivision, Parcel Map, Tract Map, etc.) Other RTP

Development Type

- Residential: Units _____ Acres _____
- Office: Sq.ft. _____ Acres _____ Employees _____
- Commercial: Sq.ft. _____ Acres _____ Employees _____
- Industrial: Sq.ft. _____ Acres _____ Employees _____
- Educational _____
- Recreational _____
- Water Facilities: Type _____ MGD _____
- Transportation: Type RTP Mineral _____
- Mining: _____
- Power: Type _____ Watts _____
- Waste Treatment: Type _____
- Hazardous Waste: Type _____
- Other: _____

Project Issues Discussed in Document

- Aesthetic/Visual Flood Plain/Flooding Schools/Universities Water Quality
- Agricultural Land Forest Land/Fire Hazard Septic Systems Water Supply/Groundwater
- Air Quality Geologic/Seismic Sewer Capacity Wetland/Riparian
- Archeological/Historical Minerals Soil Erosion/Compaction/Grading Wildlife
- Coastal Zone Noise Solid Waste Growth Inducing
- Drainage/Absorption Population/Housing Balance Toxic/Hazardous Landuse
- Economic/Jobs Public Services/Facilities Traffic/Circulation Cumulative Effects
- Fiscal Recreation/Parks Vegetation Other _____

Present Land Use/Zoning/General Plan Use

Project Description

Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. from a Notice of Preparation or previous draft document) please fill it in.

NOTICE OF PREPARATION FOR A PROGRAM EIR

RESPONSE DEADLINE: April 23rd 1999

DATE: March 19, 1999

TO: Distribution List (see attached) and Interested Parties

FROM: Spencer Clifton, Executive Director
Humboldt County Association of Governments
235 4th Street, Suite F
Eureka CA 95501

SUBJECT: Notice of Preparation (NOP) of a Draft Program Environmental Impact Report

The Humboldt County Association of Governments will be the Lead Agency and will prepare a Environmental Impact Report (EIR) for the 1998-00 Regional Transportation Plan (RTP) for Humboldt County. The type of EIR to be prepared is a Program EIR. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed RTP, and are requesting your comments pursuant to California Environmental Quality Act Guidelines, Section 15082.

The RTP format and content, and environmental issues to be evaluated, are contained in the attached materials. This NOP functions as an initial study, to determine the scope of the Program EIR. You will also receive notice if a scoping meeting is held during the NOP period.

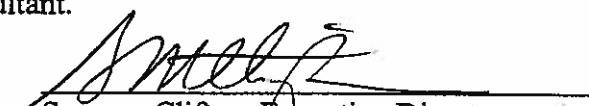
Due to the time limits mandated by state law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice. We anticipate that the Draft Program EIR will be circulated for review in May 1999.

Please send your response to Spencer Clifton, Executive Director, at the address shown above.

PROJECT TITLE: 1998-00 Regional Transportation Plan for Humboldt County

The HCAOG's RTP consultant, Planwest, may wish to contact NOP respondents for assistance in preparing the Draft EIR. Please identify the name(s) of the person(s) to contact if there are questions about your agency's comments. The HCAOG would appreciate the respondent's cooperation with our consultant.

Date: March 19th 1999


Spencer Clifton, Executive Director
Telephone: (707) 444-8208
Fax: (707) 444-8319

Attachment

Reference: California Administrative Code, Title 14, Sections 15082(a), 15103, 15375

1998-00 Regional Transportation Plan for Humboldt County Program EIR Project Description

The proposed project is the adoption of the 1998-00 Regional Transportation Plan (RTP) for Humboldt County. The RTP is the primary regional transportation planning document for the Humboldt County Association of Governments (HCAOG).

RTP Background

The HCAOG last updated the Regional Transportation Plan (RTP) in January, 1998. The RTP was updated in accordance with the California Transportation Commission RTP guidelines (revised, November 1994). Since that time, however, the California Legislature has passed SB 45, a bill that changes how regional transportation improvements are funded and incorporated into the State Transportation Improvement Program (STIP). SB 45 functionally converts RTP's from planning documents to programming documents. The bill requires that regional transportation planning agencies (RTPA's), such as HCAOG, be responsible for programming improvement projects funded through Regional Transportation Improvement Program funds.

Location

Humboldt County, is located on the northern coast of California (see attached map). The major Transportation routes serving the County are U.S. Route 101 and State Highway 299. There are seven incorporated cities: Eureka, Arcata, Fortuna, Rio Dell, Ferndale, Blue Lake, and Trinidad; and numerous unincorporated communities in the County. The County's estimated 1998 population was 126,500. The County encompasses 3,500 square miles of beaches, dunes, estuaries, river valleys, Humboldt Bay, incorporated and unincorporated communities, coastal terraces, agricultural lands, and forested hills.

Regional Transportation Plan Requirements

State legislation requires that each Regional Transportation Planning Agency prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system. The system is to include, but not be limited to mass transportation; highway; railroad; maritime;

bicycle; pedestrian; goods movement; and aviation facilities and services. The plan shall be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials. Each Regional Transportation Planning Agency shall consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies. The regional transportation plan shall include all of the following:

A **policy element** that describes the transportation issues in the region, identifies and quantifies regional needs, and describes the desired short-range and long-range transportation goals, and pragmatic objective and policy statements. The objective and policy statements shall be consistent with the funding estimates of the financial element.

An **action element** that describes the programs and actions necessary to implement the plan and assigns implementation responsibilities. The action element may describe all projects proposed for development during the 20-year life of the plan.

A **financial element** that summarizes the cost of plan implementation constrained by a realistic projection of available revenues. The financial element shall also contain recommendations for allocation of funds.

Each transportation planning agency shall adopt and submit, biennially, an updated regional transportation plan to the California Transportation Commission and the Department of Transportation. The plan shall be consistent with federal planning and programming requirements (TEA-21).

The 1998-00 Regional Transportation Plan Format

The outline shown below will be followed in preparing the RTP:

Executive Summary

Introduction

- A Planning Process
- B Purpose of the Plan
- C Regional Setting
- D Coordination with Other Plans and Studies
- E Plan Assumptions
- F Citizen Participation Program
- G Organization of the RTP

Assessment of Needs

- A Existing Needs

B Future Needs

Policy Element

- A. Policy Issues
- B. Goals, Objectives, and Policies

Action Element

- A. Past Accomplishments
- B. State and Regional Transportation Improvement Programming Process
- C. Recommended Action Programs/Projects by Transportation Mode
- D. Regional Transportation Improvements Program (RTIP) Recommendations

Financial Element

- A. Purpose
- B. Roadway Improvement Funding (includes freight)
- C. Transit Improvement Funding
- D. Aviation Improvement Funding
- E. Bicycle and Pedestrian Improvement Funding
- F. Goods Movement (truck, rail, marine) Improvement Funding
- G. Recreational Travel Improvement Funding
- H. TSM Improvement Funding (ITS, ATS and TDM Improvement Funding)
- I. Pipeline and Energy Conservation Improvement Funding
- J. Other Potential Funding Sources

Environmental Review

Appendices

The 1998-00 Regional Transportation Plan Content

The 1998-00 RTP will address the following transportation modes and issues:

- Roadways
- Transit (public transit, paratransit, private carriers)
- Aviation
- Bicycle and Pedestrian Improvement
- Goods Movement (truck, rail, marine)
- Recreational Travel
- Transportation System Management (ITS, ATS, TDM)
- Pipeline Transport and Energy Conservation

The RTP is being prepared to conform to the latest guidelines developed by the California Transportation Commission, including provisions for:

Land Use/Transportation Relationship - The RTP will be coordinated with the local land use plans, such General Plans and other local area plans. RTP transportation analysis will demonstrate that there is support for local land use plan policies.

Clean Air Requirements - The RTP Action Plan will include measures for maintaining air resources. Humboldt County is located in North Coast Unified Air Quality Management District (NCUAQMD), and although local air quality exceeds standards for only one pollutant (PM-10) as measured by the State Air Resources Board (ARB), the RTP will include provisions to maintain air quality.

Financial Constraints - The RTP will include an assessment of available financial resources and projects that can realistically be funded. RTP guidelines dictate a "cost feasible" transportation plan which best meets regional transportation needs and can be realistically funded.

Consistency with Other Plans

Regional transportation provisions from the recently completed Arcata and Eureka General Plans, the Regional Bikeway Plan and other local transportation plans will be incorporated into the RTP. Applicable provisions from other city, county, and regional plans will be identified in the RTP.

Countywide Traffic Analysis

An updated traffic analysis element will be included in the RTP. The analysis will reflect the latest land use plans, trends and policies. The analysis will summarize systemwide traffic data

Coordination Between Regional and State Jurisdictions

Since many of the major roads within the County are State highways, coordination with Caltrans' District 1 is critical to development of the RTP. Plans by regional agencies and districts, such as the Humboldt Bay Harbor Recreation and Conservation District, will also be coordinated with the RTP.

Assessment of Needs

Existing plans and studies, as well as relevant information from the January 1998 RTP, provide the basis for the Assessment of Needs. This section identifies the existing and future deficiencies of the transportation system that have state and regional significance. It includes a description of the methodology used to develop travel demand forecasts and to analyze traffic operations, and includes:

An assessment of existing conditions, using available countywide traffic volumes to establish existing traffic conditions.

An assessment of future demand, using information from the Statewide County Traffic Model, historic trends, recent traffic studies, population and employment growth trends, and traffic demand increases for major roadways within the County.

The assessment of needs element of the RTP includes the following information.

Roadway System (LOS evaluation). This section describes the regional transportation system by roadway classification and by individual roadway or highway. It includes maps of the arterial roadway classifications, roadway characteristics, existing average daily traffic volumes, and peak daily volume (where available) from various sources on both state highways and non-state regionally significant roadways. This section describes the Level of Service criteria used to analyze regional roadways and the standard by which Caltrans and Humboldt County's roads are measured. Average and peak daily service levels are identified where traffic volumes are available, and areas of unacceptable operation are described.

Transit. This section provides an overview of existing transit services, routes, summary of schedules and fares, and where available, discussion of transit performance indicators for each operator (annual passengers, ridership trends, revenue, operating costs, service miles, etc.). Existing transit service areas are identified and mapped. In addition to fixed route transit services, this section identifies paratransit and private options.

Aviation. This section includes an overview of the basic components of air transportation: scheduled passenger service; on-demand passenger service (charter); business/corporate cargo (general, small-package, and mail); personal/recreational; agricultural; and military. The relevance of each component to Humboldt County is described. The location, role, and major facilities of the nine public-use airports in Humboldt County, as well as existing and emerging land use compatibility issues, are described. Particular attention is given to Arcata-Eureka Airport, because it is the only source of scheduled passenger service in Humboldt County.

Bikeway and Pedestrian Facilities. This section includes a summary of existing pedestrian and bicycle plans, existing facilities by classification (Class I, II and III), and transit service with bicycle capabilities. Existing bicycle and pedestrian use patterns and projected potential use increases, based on existing trends and potential improvements in facilities and services, are described.

Goods Movement (truck, rail, marine). This section describes the county truck route system and, where available, truck volumes. This section will not categorize truck travel by various industries (e.g. lumber or farm to market) but treats truck travel as one entity for the movement of raw materials and goods. Specific truck routes through local communities will be identified. Existing rail and marine freight facilities, and the status of rail and marine transport, is

discussed and mapped. An assessment of the goods movement needs that could be served by rail, should rail service resume, is provided.

Recreational Travel. This section describes travel related to tourism and recreation activities in the County. Existing recreational travel use patterns and projected potential use increases, based on existing trends and potential improvements in facilities and services, are described. Special event passenger rail (excursion) is discussed.

Transportation System Management (TSM). This section describes TSM measures in general and existing TSM programs in place, including major signal coordination projects, Intelligent Transportation Systems (ITS), etc. This section summarizes the Rural California Oregon Advanced Transportation System (COATS) project being implemented in Northern California and Southern Oregon. This section also includes Transportation Demand Management (TDM) measures in general and specific programs that exist (e.g. Humboldt State University).

Pipeline Transport and Energy Conservation. The status of existing and planned pipelines for regional water supply, wastewater, natural gas, and electric transmission lines are described in this section. The potential need for new pipelines are evaluated, with particular attention paid to recent community efforts to bring a new gas pipeline to the north spit of Humboldt Bay. Potential needs for seismic reliability improvements to the pipeline systems are evaluated. Factors limiting the County's ability to develop needed pipelines are identified. The need and regional benefits of energy conservation, and the status of existing conservation programs, are discussed.

Air Quality. This section will summarize existing air quality conditions and conformance, using existing data from the NCUAQMD and available reports. Policies and programs to reduce mobile sources of pollutants are identified.

Policy Element

The policy element contains goals, objectives, and policies for each mode of transportation. A discussion of statewide and regional issues, that affect Humboldt County, is included.

The following goals, from the 1996-98 RTP, will be updated:

Goal 1: Transportation System Development. To develop, operate and maintain a well-coordinated, balanced, countywide multimodal transportation system that is safe, efficient and provides good access to all cities, communities, and recreational facilities and into adjoining regions. A balanced multimodal

transportation system includes but is not limited to highway, public transit, aviation, marine, railroads, bicycle, pedestrian, equestrian, and utility systems.

Goal 2: Transportation System Equitability. To develop transportation systems and services to meet the needs of all citizens in Humboldt County.

Goal 3: Transportation System Compatibility and Design. To design all transportation systems to be compatible with the total environment and to avoid or minimize adverse impacts.

Goal 4: Transportation System Coordination And Implementation. To effectively implement transportation policies and system plans within the county and to coordinate implementation with the adjacent counties, the state and the federal government.

Goal 5: Transportation System Feasibility. Develop a transportation plan that will be financially and politically feasible which has the support of Humboldt County residents.

Goal 6: Transportation System Consistency. To provide a transportation system that assists in the attainment of adopted non-transportation goals and objectives of the cities and Humboldt County.

Financial Element

The financial element lists the costs, revenues, deficits, and surpluses for each transportation mode. If a funding deficit is identified, a discussion of those improvements that are financially feasible is presented along with an assessment of the resulting impacts of the funding shortfall. Relevant alternative funding sources are discussed. This element includes descriptions of past accomplishments; the state and regional transportation improvement programming process; recommended action programs/projects by transportation mode; and regional transportation improvements program (RTIP) recommendations.

Action Element

The action element describes the state and regional transportation planning process, as well as the implementation programs recommended by Humboldt County jurisdictions. Where possible, improvements are identified for short-range and long-range capital improvements. Implementation cost estimates and jurisdictional responsibilities, by mode, are also identified.

Environmental Review

The environmental review briefly describes the California Environmental Quality Act (CEQA) environmental review process, including the separate program-level Environmental Impact Report (EIR) prepared as part of the RTP update.

Issues to be Addressed in the EIR

The potential impacts of the 1998-00 RTP will be analyzed at the program level, and mitigation and monitoring will be proposed, if necessary, for the following issues and topics, consistent with CEQA guidelines:

Land Use	Noise
Circulation	Public Services
Geology	Cultural Resources
Water Resources	Aesthetics
Air Resources	Biological Resources

The RTP will include policy, action, and financial considerations for roadway, transit, aviation, bicycle and pedestrian, goods movement, recreational travel and pipeline improvements in the County. Since the RTP is primarily a programming document, these improvements will not be evaluated at the project level, but will be analyzed in terms of their overall contribution to the regional transportation system.

Many of the regional transportation improvements proposed in the RTP have been the subject of prior project level environmental analysis. Existing environmental documentation for these improvements will be referenced in the EIR.

Required Approvals

Adoption of the 1998-00 RTP would require action by the HCAOG Board of Directors.

Alternatives to the Proposed Project

The EIR will identify three alternatives to the 1998-00 RTP. These include the Existing RTP (no-project alternative), a transit/alternative mode oriented alternative, and a fully funded RTP alternative.

**1998-00 Regional Transportation Plan for Humboldt County
EIR Notice of Preparation Distribution List**

Federal Agencies

Bob Durfy
U.S. Coast Guard Humboldt Bay
3701 Boeing Ave.
McKinleyville, CA 95519

Randy Brown
U.S. Fish and Wildlife Services
1125 16th Street, Rm 209
Arcata, CA 95521

State Agencies

State Clearinghouse (11 Copies)
Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

Cheryl Willis
Caltrans District 1
P.O. Box 3700
Eureka, CA 95502-3700

Steve Peach
California Highway Patrol
1255 E. Samoa Blvd.
Arcata, CA 95521

Robert Torzynski
North Coast Unified AQMD
2300 Myrtle Ave.
Eureka, CA 95501

Bill Rodrigues
N. Coast Region Water Quality Control Brd.
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

State Lands Commission
100 Howe Avenue, Suite 100
So. Sacramento, CA 95825-8202

Local & Regional Agencies

Roger Murphy
Humboldt Transit Authority
133 V Street
Eureka, CA 95501

Larry Pardi
A&MRTS
736 F Street
Arcata, CA 95521

Marie Liscom
Eureka Transit Service
531 K Street
Eureka, CA 95501

Scott Kelly (Ferndale Representative)
Spencer Engineering
1930 Central Ave., Suite C
McKinleyville, CA 95519

H.G Hively & Neil Worthen
City of Rio Dell
Rio Dell, CA 95564

Peter Rei
Humboldt Co. Public Works
1106 Second St.
Eureka, CA 95501

Cindee Rosenberg
City of Fortuna
P.O. Box 545
Fortuna, CA 95540

Duane Greenwood
City of Arcata Public Works
736 F Street
Arcata, CA 95521

Local & Regional Agencies (continued)

Duane Rigge
City of Blue Lake
111 Greenwood Ave.
Blue Lake, CA 95525

Robert Brown (Trinidad Representative)
Streamline Planning
1864 Myrtle Ave.
Eureka, CA 95501

Kirk Girard
Humboldt County Planning Dept.
3105 H. Street
Eureka, CA 95501

Don Tuttle
Natural Resources Division
Humboldt Co. Public Works Dept.
1106 Second Street
Eureka, CA 95501

Cindy Logan
North Coast Railroad Authority
3631 Chinguapin Dr.
Willits, CA 95490

David Hull
Humboldt Bay Harbor Rec & Cons. Dist.
P.O. Box 1030
Eureka, CA 95502-1030

Bruce Buel
McKinleyville Community Services Dist.
P.O. Box 2144
McKinleyville, CA 95519

Wiley Ritchey
Manila Community Services District
1901 Park Street
Manila, CA 95521

Loleta Community Services District
282 Loleta Drive
Loleta CA 95551

Local & Regional Agencies (continued)

Willow Creek
Community Services District
Willow Creek CA 95574

Libraries

Librarian
Humboldt County Library
1313 3rd Street
Eureka, CA 95501

Librarian
College of the Redwoods
7351 Tompkins Hill Road
Eureka, CA 95501

Librarian
Humboldt State University
Arcata, CA 95521

Northcoast Environmental Center Library
Attn: Tim McKay
879 Ninth Street
Arcata, CA 95521

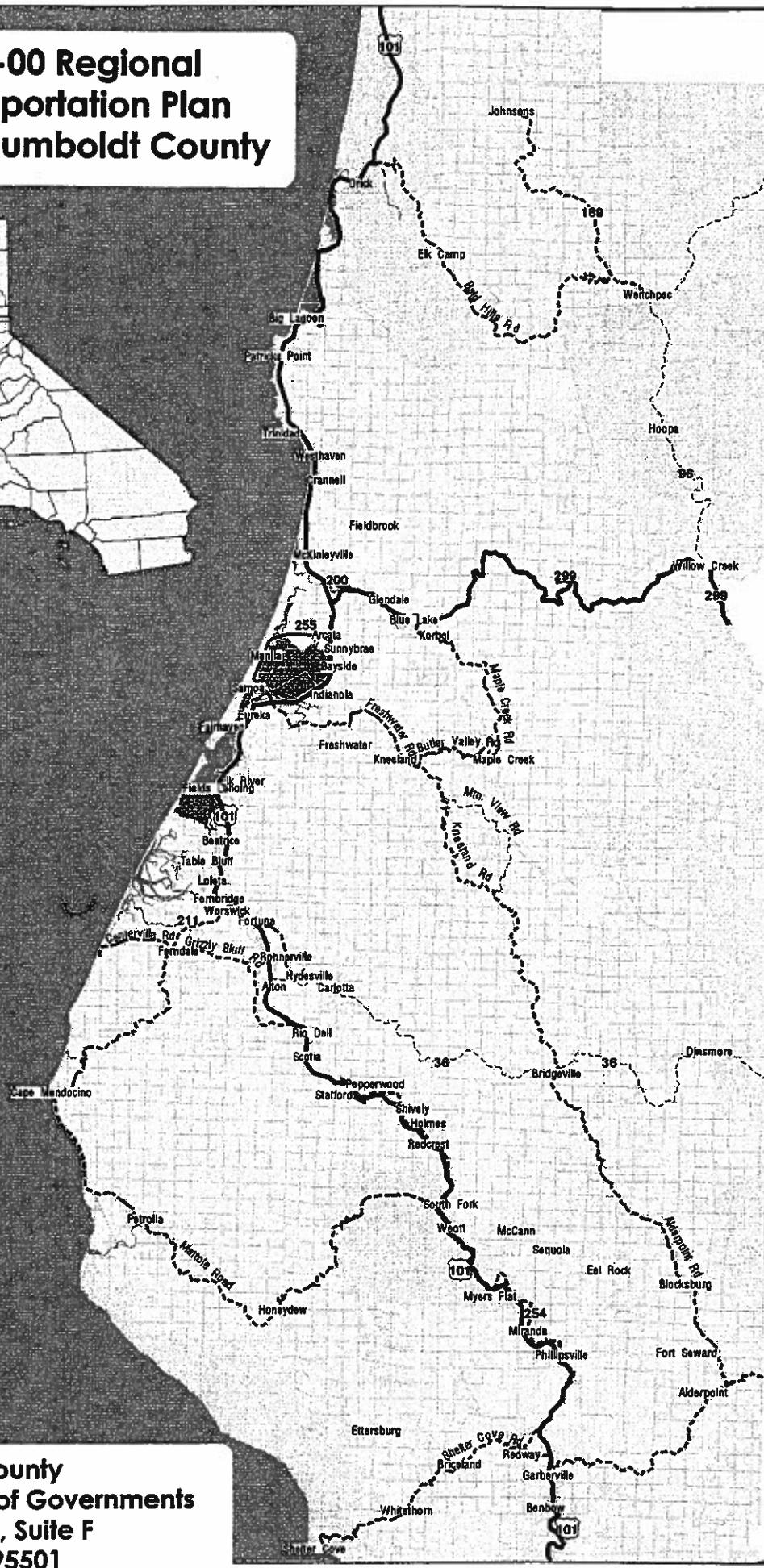
Others






Bill Burton
Arcata Community Bicycle Program
P.O. Box 7
Korbel, CA 95530

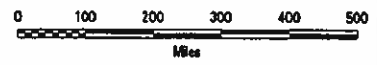
Humboldt Bay
Bicycle Commuters Association
P.O. Box 9054
Eureka, CA 95501

Alan M. Baird
Highway 36 Association
P.O. Box 396
Fortuna, CA 95540

1998-00 Regional Transportation Plan for Humboldt County



-  Public Lands in Humboldt County
-  Principal Arterials
-  Major Rural & Urban Arterials
-  Minor Arterials
-  Public Land Survey System



Humboldt County
Association of Governments
234 4th Street, Suite F
Eureka, CA 95501





DEPARTMENT OF PUBLIC WORKS
COUNTY OF HUMBOLDT

MAILING ADDRESS: 1106 SECOND STREET, EUREKA, CA 95501-0579
AREA CODE 707

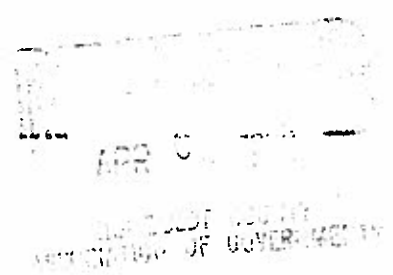
ARCATA-EUREKA AIRPORT TERMINAL
McKINLEYVILLE
AVIATION 839-5401

PUBLIC WORKS BUILDING
SECOND & I ST., EUREKA
ADMINISTRATION 445-7491 NATURAL RESOURCES 445-7741
BUSINESS 445-7652 PARKS 445-7652
ENGINEERING 445-7493 ROADS & EQUIPMENT MAINT. 445-7421

CLARK COMPLEX
HARRIS & H ST., EUREKA
REAL PROPERTY SERVICES 445-7205

April 2, 1999

Spencer Clifton, Executive Director
Humboldt County Association of Governments
235 Fourth Street, Suite F
Eureka, CA 95501



RE: NOP FOR DRAFT EIR ON REGIONAL TRANSPORTATION PLAN

Dear Mr. Clifton:

Peter Rei and I have carefully reviewed the documents attached to the Notice of Preparation dated March 19, 1999. As we were unable to ascertain what physical changes to the environment would occur from specific projects, we met with George Williamson, the consultant, for an hour on March 29, 1999. We explained to Mr. Williamson our difficulty in coming up with any so called proposed project to which we could respond in light of the jurisdiction of our department.

I would recommend that, if you have determined that significant adverse effects will occur to the environment, you should proceed to prepare a Program EIR describing some of those impacts and the projects to which these impacts refer. I suspect the scope and detail of your document cannot be very thorough unless there are some specific projects that have been proposed and contained in the Action Element of the plan.

Both Peter and I have attended scoping sessions held by the consultant. We heard many ideas and types of transportation facilities and bus schedules described by attendees. If some of those ideas were crafted into a project description for future implementation, that would provide some type of foundation for an environmental assessment which might lead to an adverse effect, triggering a draft EIR.

We noted the draft program EIR is scheduled to be circulated for public review in May 1999. We look forward to reviewing that document and of course will cooperate in any we can to make it adequate under the requirements of CEQA.

Very truly yours,

Donald C. Tuttle
Deputy Director - General Services

cc: Peter Rei, Deputy Director - Engineering

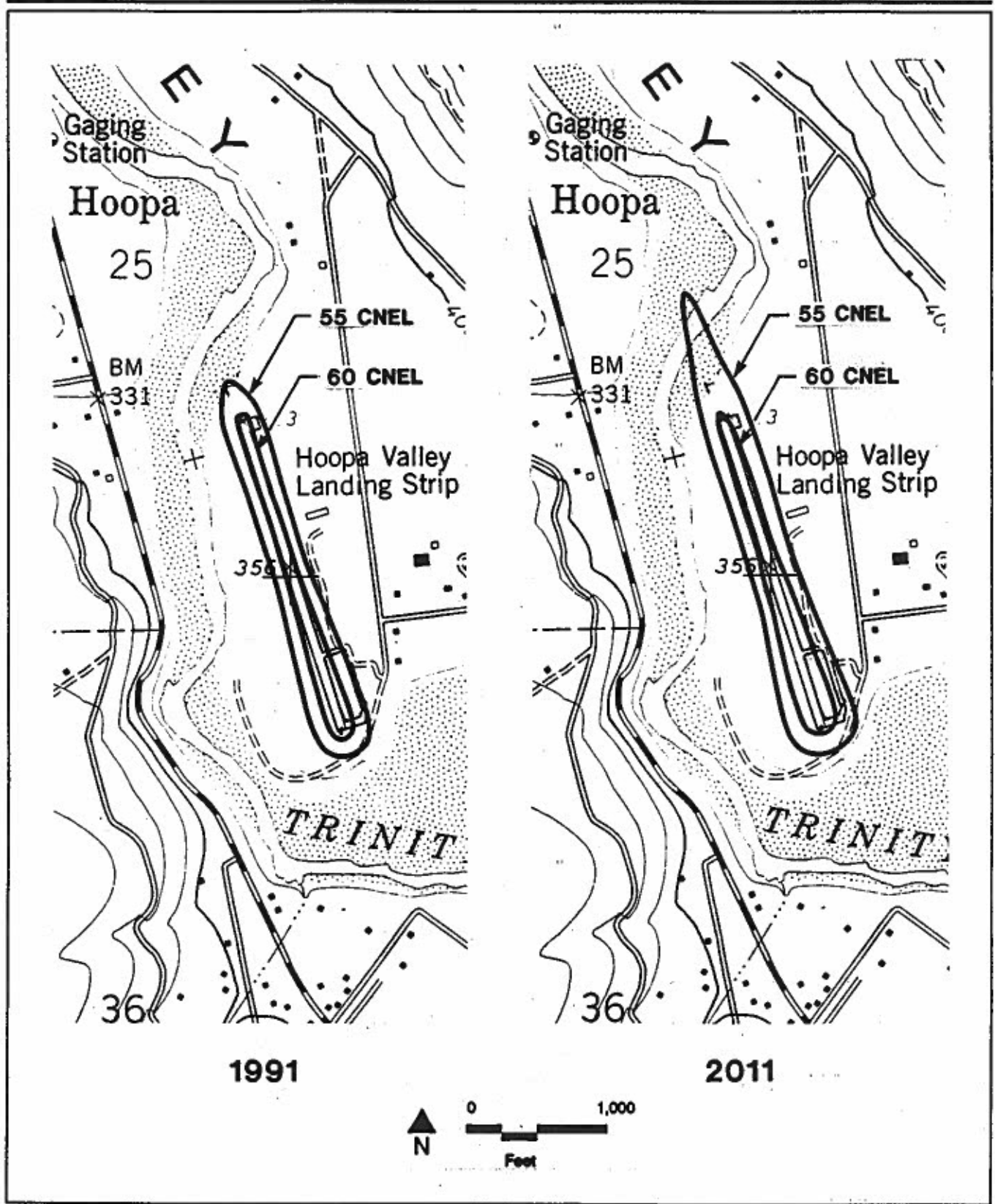


Figure 4

Appendix C
AIRPORT NOISE CONTOURS

Noise Contours
Hoopa Airport

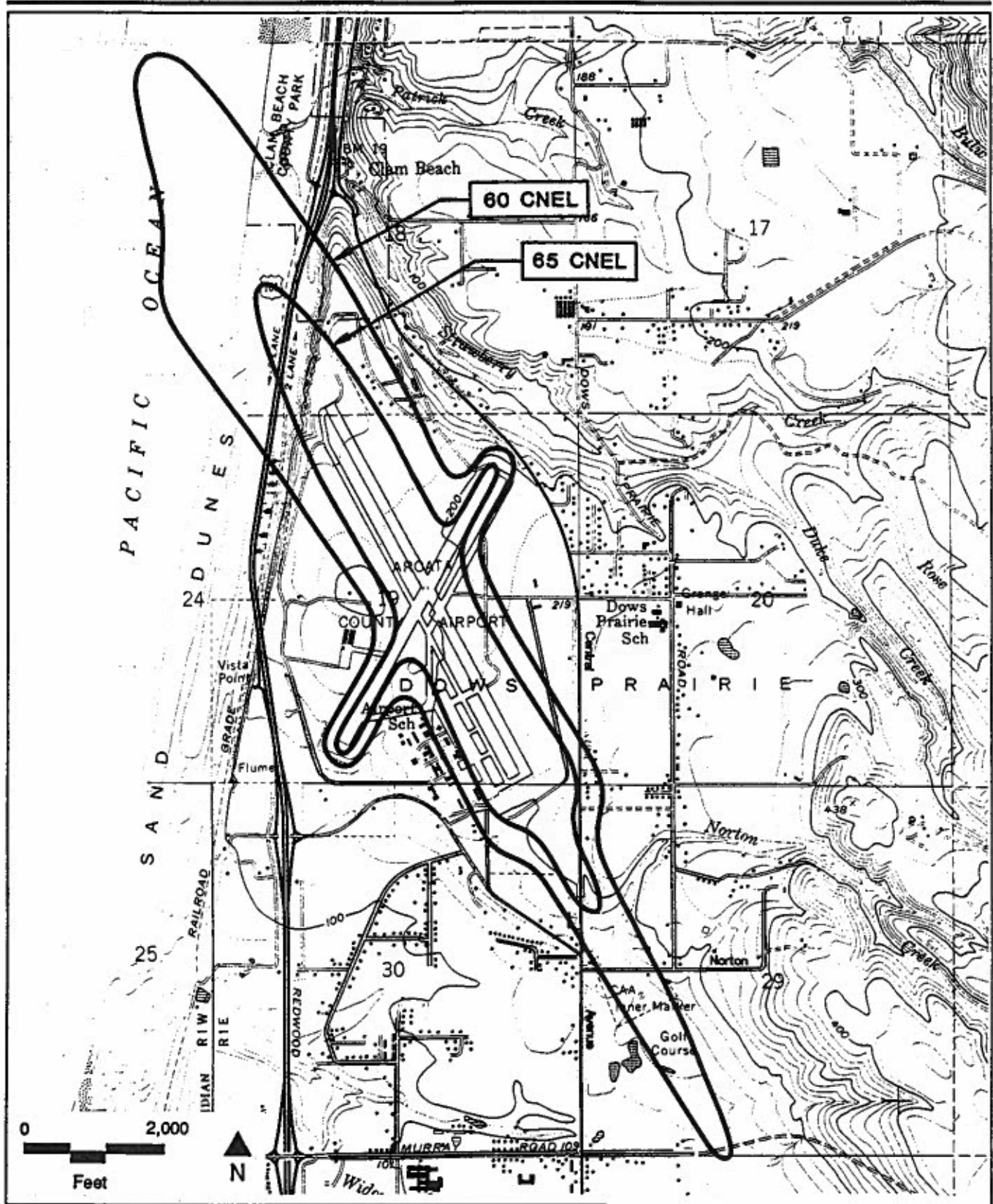


Figure 8

Noise Contours - 2011 Arcata-Eureka Airport

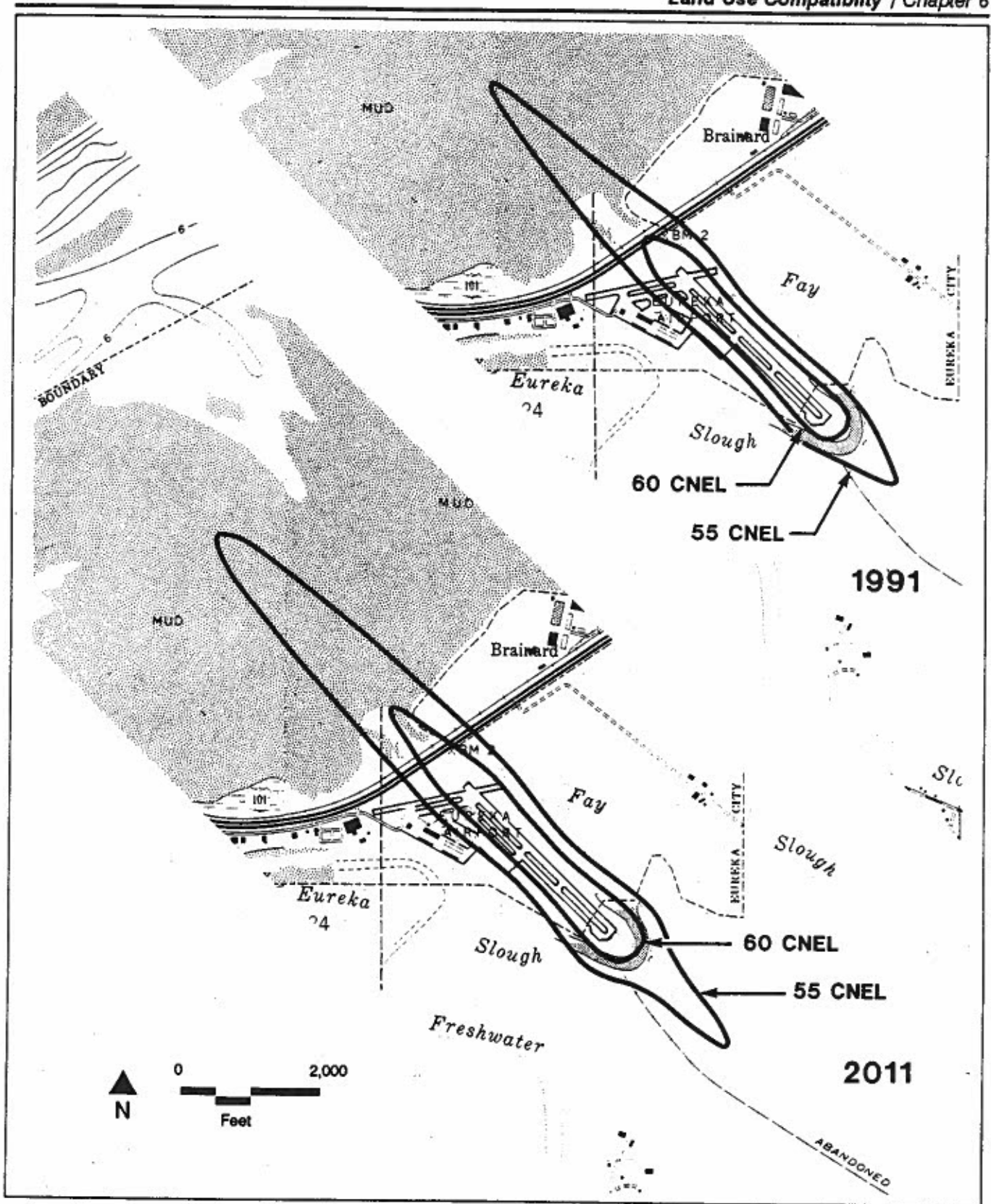


Figure 6

Noise Contours
Murray Field

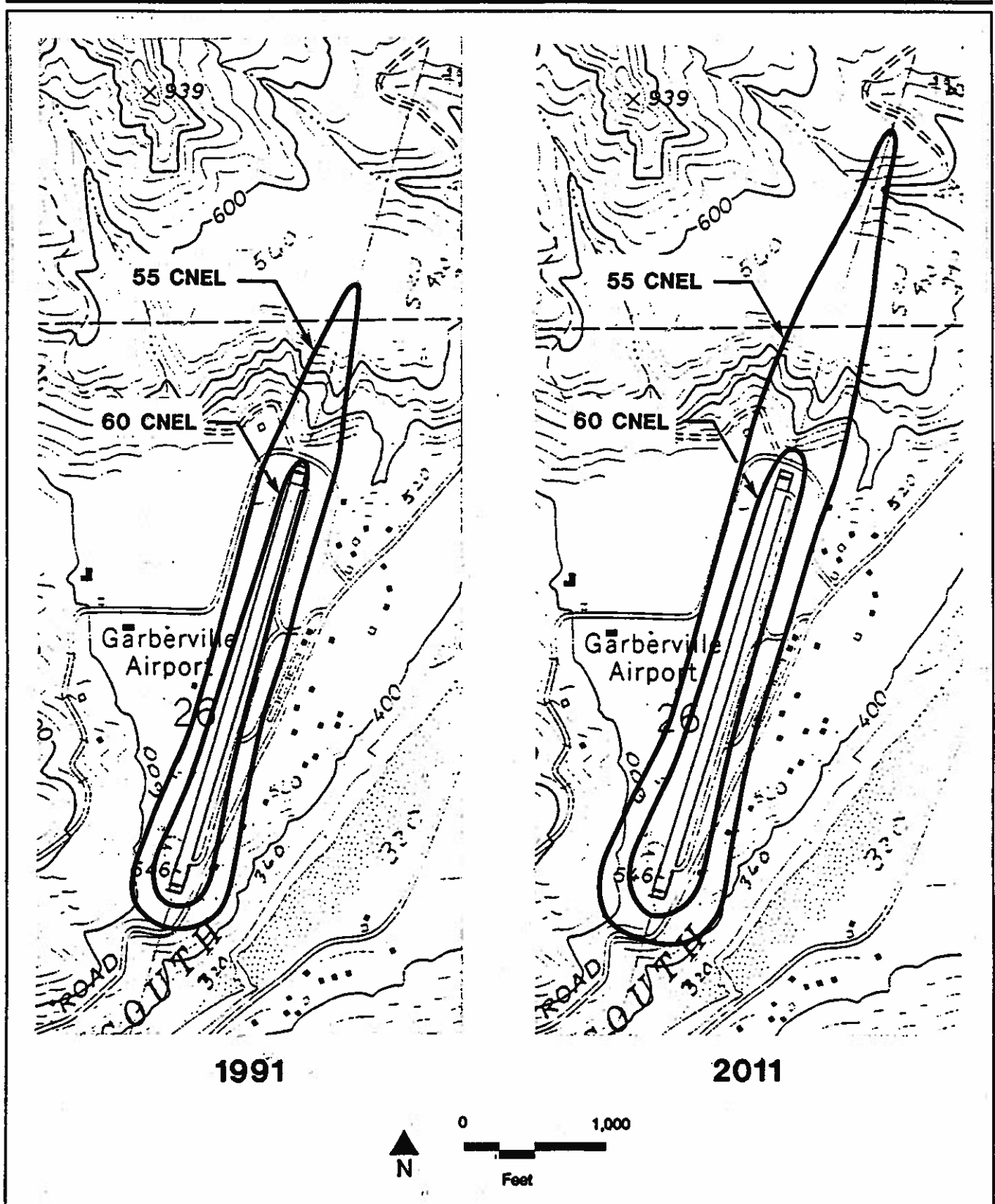


Figure 4

Noise Contours Garberville Airport

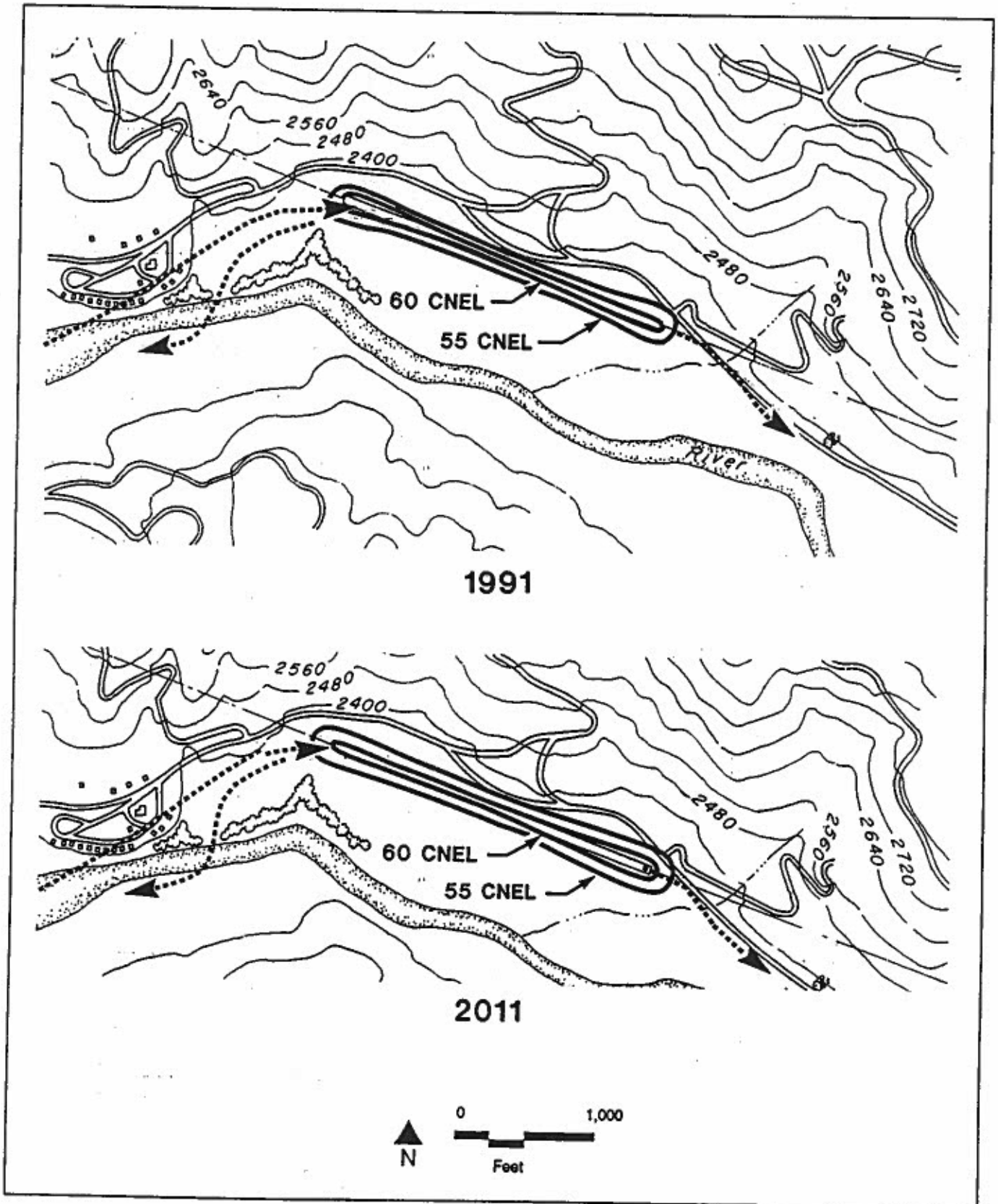


Figure 4D

Noise Contours
Dinsmore Airport

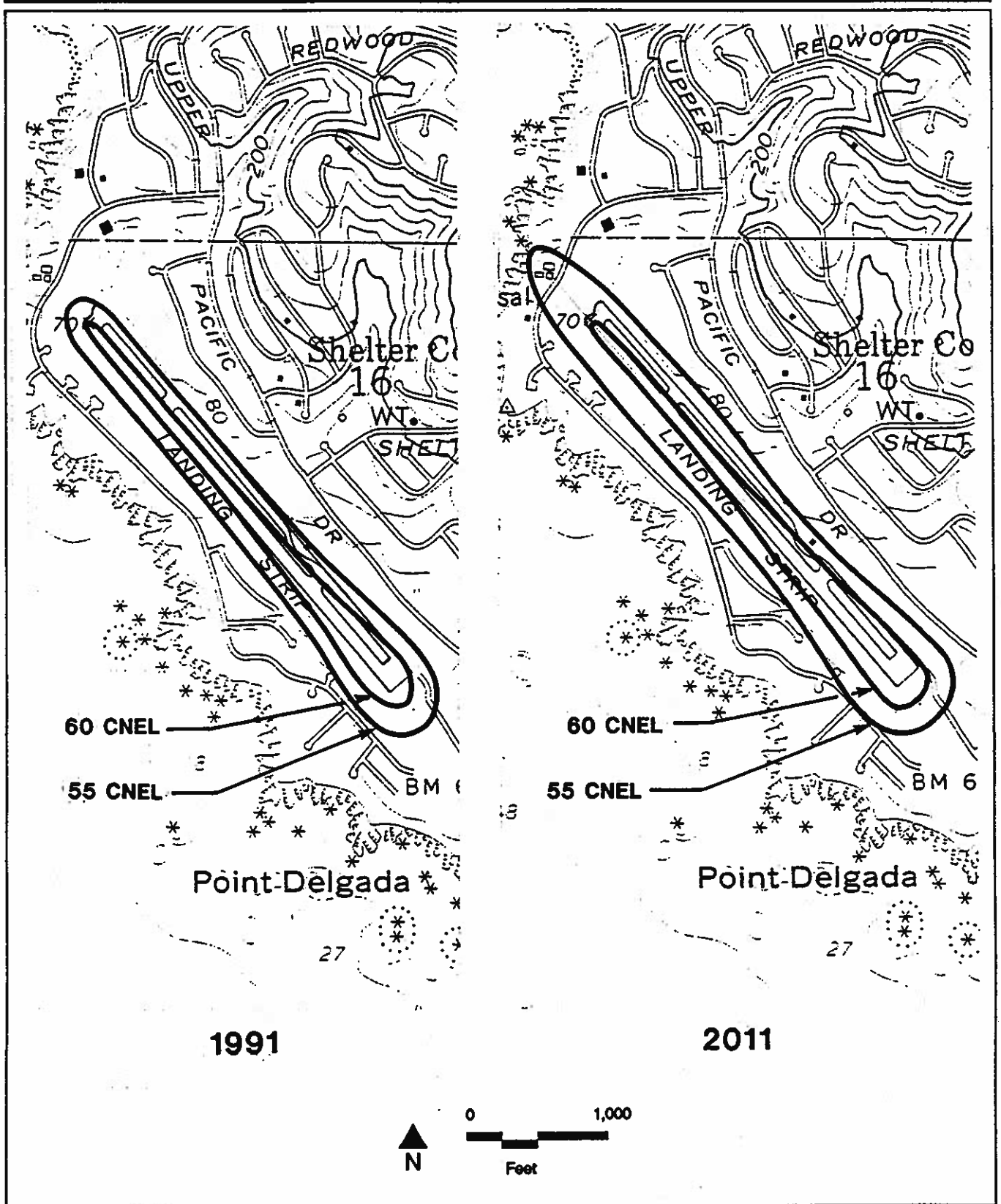


Figure 3

Noise Contours
Shelter Cove Airport

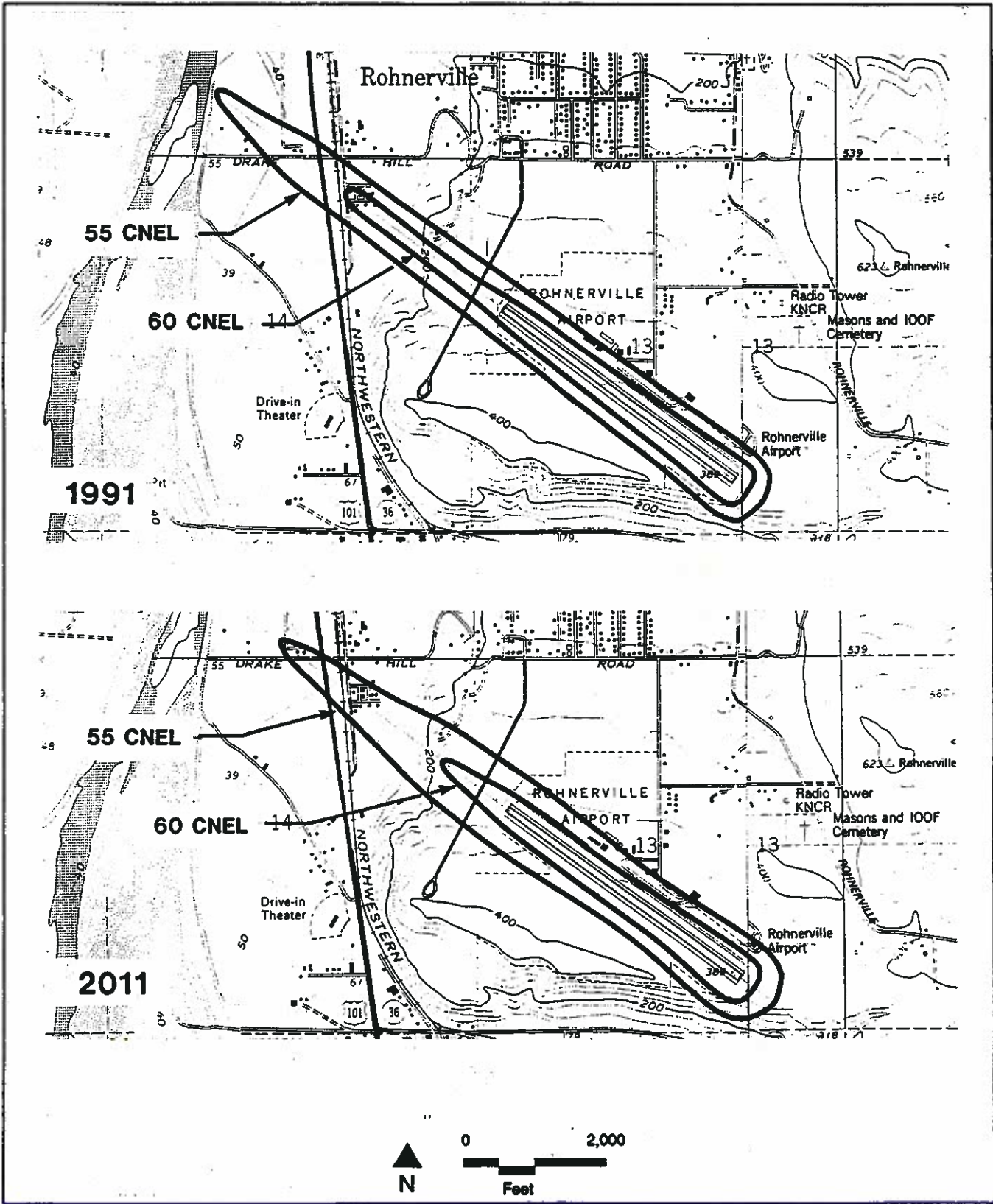


Figure 5

Noise Contours
Rohnerville Airport

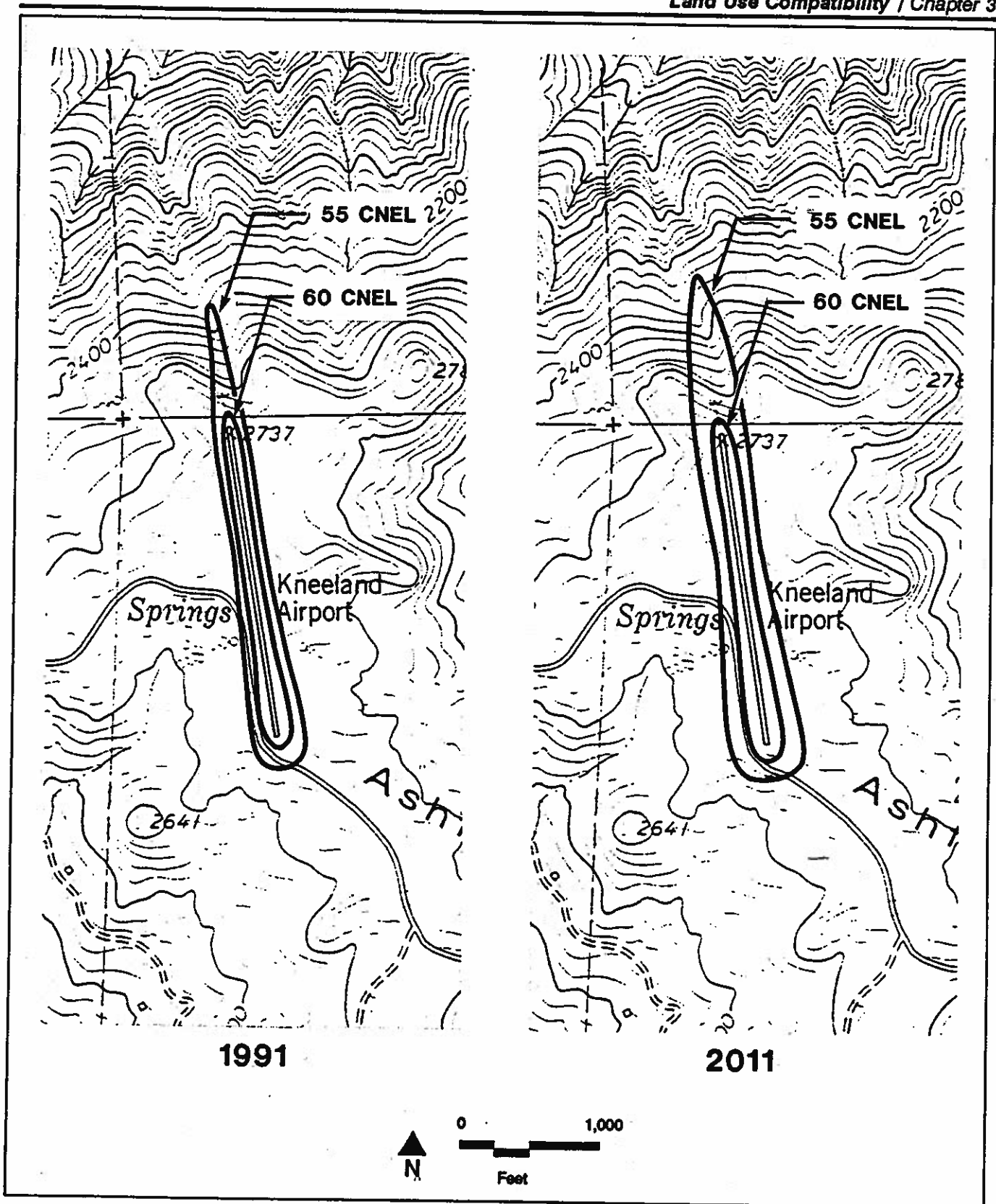


Figure 4

Noise Contours
Kneeland Airport

